HIT Standards Committee
Final Transcript
July 20, 2011

Presentation

Judy Sparrow – Office of the National Coordinator – Executive Director
Good morning, everybody. Operator, could you bring in the public, please? The meeting is ready to begin.

Moderator
All lines are bridged.

Judy Sparrow – Office of the National Coordinator – Executive Director
Operator?

Marc Overhage – Regenstrief – Director
Judy, I believe she said all the lines were bridged.

Judy Sparrow – Office of the National Coordinator – Executive Director
Okay. We'll do a roll call in a minute, Marc. Operator, is the public line open?

Moderator
Yes, ma'am.

Judy Sparrow – Office of the National Coordinator – Executive Director
Thank you very much. Good morning, everybody, and welcome to the 27th meeting of the HIT Standards Committee. As a Federal Advisory Committee there will be opportunity at the end of the meeting for the public to make comment and a transcript will be available on the ONC Website. And just a reminder for members here in the room and on the phone to please identify yourselves when speaking for attribution.

Let's do a quick role call around the table beginning on my left with Steve Posnack.

Steve Posnack – ONC – Policy Analyst
Steve Posnack, ONC.

Doug Fridsma – ONC – Director, Office of Standards & Interoperability
Doug Fridsma, ONC.

Janet Corrigan – National Quality Forum – President & CEO
Janet Corrigan, NQF.

Judy Murphy – Aurora Health Care – Vice President of Applications
Judy Murphy, Aurora Health Care.

Cris Ross – SureScripts
Cris Ross, SureScripts.

Rebecca Kush – CDISC – CEO & President
Rebecca Kush, CDISC.

Wes Rishel – Gartner, Inc. – Vice President & Distinguished Analyst
Wes Rishel, Gartner.

Elizabeth Johnson – Tenet Healthcare – VP Applied Clinical Informatics
Liz Johnson, Tenet Healthcare.

David McCallie – Cerner Corporation – Vice President of Medical Informatics
David McCallie, Cerner.

Farzad Mostashari – ONC – National Coordinator for Health Information Technology
Farzad Mostashari, ONC.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Jon Perlin, HCA.

John Halamka – Harvard Medical School – Chief Information Officer
John Halamka, Harvard Medical School and Beth Israel Deaconess.

Jim Walker – Geisinger Health Systems – Chief Health Information Officer
Jim Walker, Geisinger.

Dixie Baker – Science Applications Intl. Corp. – CTO, Health & Life Sciences
Dixie Baker, SAIC.

Steve Ordra – NeHC – Senior Policy Advisor
Steve Ordra, OSTP.

Christopher Chute – Mayo Clinic – VC Data Gov. & Health IT Standards
Chris Chute, Mayo Clinic.

Stan Huff – Intermountain Healthcare – Chief Medical Informatics Officer
Stan Huff, Intermountain Healthcare and the University of Utah.

Anne Castro – Blue Cross Blue Shield South Carolina – Chief Design Architect
Anne Castro, Blue Cross Blue Shield of South Carolina.

Walter Suarez – Kaiser Permanente – Director, Health IT Strategy
Walter Suarez, Kaiser Permanente.

John Derr – Golden Living LLC – Chief Technology Strategic Officer
John Derr, Golden Living.

Natasha Bonhomme – Genetic Alliance – VP Strategic Development
Natasha Bonhomme with Genetic Alliance.

Judy Sparrow – Office of the National Coordinator – Executive Director
Thank you. On the phone we have Marc Overhage.

Marc Overhage – Regenstrief – Director
Good morning.

Judy Sparrow – Office of the National Coordinator – Executive Director
Jamie Ferguson.

Jamie Ferguson – Kaiser Permanente – Executive Director HIT Strategy & Policy
Here.

Judy Sparrow – Office of the National Coordinator – Executive Director

And I believe we have Kamie Roberts from NIST correct?

Kamie Roberts – NIST – IT Lab Grant Program Manager
Correct.

Judy Sparrow – Office of the National Coordinator – Executive Director
Anybody else on the telephone?

Carol Diamond – Markle Foundation – Managing Director Healthcare Program
Carol Diamond is on the phone.

Judy Sparrow – Office of the National Coordinator – Executive Director
Oh and Carol. Good morning.

Kevin Hutchinson – Prematics, Inc. – CEO
Kevin Hutchinson's on the phone.

Judy Sparrow – Office of the National Coordinator – Executive Director
I'm sorry?

Kevin Hutchinson – Prematics, Inc. – CEO
Kevin Hutchinson.

Judy Sparrow – Office of the National Coordinator – Executive Director
Oh Kevin. Good morning. And Linda Fischetti just joined us at the table. So with that I'll turn it over to Dr. Mostashari for opening remarks.

Nancy Orvis – U.S. Department of Defense (Health Affairs) – Chief
And Nancy Orvis from DoD is online.

Judy Sparrow – Office of the National Coordinator – Executive Director
Oh thank you, Nancy.

Farzad Mostashari – ONC – National Coordinator for Health Information Technology
Good morning. Good morning. It's been a busy time; it will continue to be busy for the hard work, as we're moving forward as best we can on what we can do while we keep our eyes on the prize of where we need to be.

Today's discussion I would love to hear, and I think we will, making explicit some of the tensions that have been present in the standards work from the very beginning. And I think this is a fascinating area for us to think about, to talk about, and to surface this tension between maturity of standards and adoptability. And there have been folks who have worked very hard who have articulated and matured standards over a period of years that have become increasingly sophisticated and that meet many, many very specific use cases very well, and yet those standards have not become widely adopted. And one approach to that is well, promulgate it and they will be adopted; what we need is kind of a strong hand and it will work. And that may be true in some instances. On the other hand, we have standards that maybe are still nascent.

And, in fact, I was hearing from Shawn Murphy of the i2b2 project, and he said one of the reasons why they're able to get adoption with 60 academic medical centers, which I think in like real hospital terms is like 6,000 hospitals in terms of difficulty of spreading innovation, the reason why they're able to get the spread of that model was because they didn't put in all the screws, that they didn't finish it; they let the adopters be smarter than the developers, they let is be extensible, they didn't solve all the problems. They made this kind of the skeleton, and then they were able to say wow look at what all this great stuff you can be by extending this model.

So in the early stages, paradoxically, it may be that leaving under specified, leaving flexible, or extensible may help with, at least among the early adopters, get the interest and ownership of the standard.

But there's something deeper, too, which is that part of what makes a standard adoptable is simplicity, but it's also what the rest of the world is doing. And many of the discussions that we've had around adoptability there's another theme around well what has happened with Internet standards in the intervening period, and whether by linking what we're doing in healthcare more to broader standards that have been adopted, but not for healthcare, whether we may accelerate their adoption. So this is going to be an ongoing, I suspect, discussion, and this is the place to have that discussion. And the more explicit we can make it and the more we can represent all of the interests of the public in the deepest sense, those who can come to every Standards Committee meeting and those who can't, and that's part of what is the unique challenge. We say we want a duocracy, and yet some of the folks who can come to every meeting are those who are so steeped, so brilliant, so experienced that nothing seems difficult for them. So that is one discussion that it's a wonderful discussion to have, and I really look forward to this body continuing the conversations, but also figuring out more explicitly some criteria and principals for trading between these competing priorities.

The other issue it brings up is the levers at our disposal. If the only lever we have around standards is certification criteria and standards for all electronic health records that places a very high bar, certainly for adoptability, and probably for maturity as well. And so can we think of other ways to innovate and to try as part of what we do so that we can move forward standards, we can recognize standards that are very mature that are perfectly suited to very specific use cases, but do not meet the test of adoptability for every electronic health record in the country. Or do we recognize standards that are closely linked to what's going on in other parts of technology that are not yet well enough specified for healthcare use, but can we have a process for getting them matured quickly, and I think that's a lot of what the work of the Standards & Interoperability Framework is engaged with.

So we can't simply focus, I think, on just the next 18 inches or 18 months ahead of us; we have to recognize that this is going to be, as Doug I think once called it, a marathon of consecutive sprint. And there's a lot of work to be done. We really have to have that longer view of how we incorporate genomics, genotypes with the phenotypes, devices in imaging and radiology, which are really, again, will be new opportunities for us to play out all of these same discussions again, but hopefully made stronger in our ability to come together as a community to address them, as a broad community based on the experiences that we've had working through the issues we've already had.

So look forward to the discussion today.

Jonathan Perlin – Hospital Corporation of America – CMO & President

Thank you, Dr. Mostashari, for you leadership, the vision, hard work, and all of the hard work not only of the ONC staff, which I think as this group knows and those who follow it closely, has really been working around the clock, around the calendar to move forward this agenda, and each of you who have been so participative. I read through the materials; a lot of good thinking, a lot of good work, really aimed not just at the next 18 months or 18 inches, but realizing a vision of higher performance healthcare.

I'm going to take a moment of personal privilege. The most intense dreams one has are at the moment of falling asleep or waking, they're called hypnagogic or sometimes hypnagogic hallucinations. And last night, and I honestly can't tell you whether it was the moment I fell asleep or the moment I woke, I was at a nursing station; I had a tablet in my hands, it was very facile, it was thinner than the highly prevalent tablet in front of me. But I remember I was taking care of a patient, and there was a specialist who was very demanding about information, and I said no problem I can get that. It might have been a cardiologist, interventional cardiologist that was demanding the information. And I remember that I quickly punched in a coupe of things on a screen that simulated information, and I said well I know what the institution is but I don't know-- And honestly, I had ELTD was at the top, there was a little trigger in the corner that said … Level Provider Directory, and I was able to find the information, and it was just flowing easily.

Well but that's the thing, is that if you think—

M
You really belong to this job … of the Standards Committee. You need a vacation, Jonathan.

Jonathan Perlin – Hospital Corporation of America – CMO & President
If you think about where we are now, if you think about the activity going on, if you think about the standards that couldn't possibly work because they're not 100% adopted or not 100% mature that we are in fact using at this moment for those who have been engaged, whether not you've been focused on the stages of Meaningful Use or advancing health informatics otherwise, these things are occurring, and when you give us that challenge, not just for the next 18 inches or the next 18 months, I think the possibility is real, because it's not hope. Hope is a feeling. It's really an informed belief based on experience of what we've accomplished thus far. It's just this process, but of the country's activities.

And it's really with that in mind that I'm so appreciative of all the work done in power teams and between meetings, because what's been offered for it, and Dixie I appreciate the framework that you've offered in maturity in adoption, Dr. Mostashari's comments about the need to really be innovative and to contemplate other dimensions such as you've offered. The need--what are the things that we need to accomplish to be able to realize this vision of integrated healthcare, informed services, patients being informed, and then how are we going to help move from what we have to what we want. Think about the logical conundrum if the only measure of what's the building block are those things that already exist; that means that we've totally discarded the concept of innovation and we've arrested the world in not just the status quo, but a previous status quo that's been completely actualized.

Now, don't get me wrong, I have to operate in the real world, as do you, and we're not talking about something that's highly speculative and philosophical. But there is a sweet spot; just as there is a spot that we will debate between the repetity of adoption there's another spot that we'll have to find and work to support it that straddle that balance between innovation and what exists between probability and possibility, and not just find ourselves locked in. So I am so appreciate, Farzad, of your counsel, of our challenge.

And as we dialog today and work between meetings I really hope that we'll keep in mind not just what we have achieved, but what we must achieve and the … that we need to use to support the aspirations that I know brought all of us together effectively in the first place.

With that I want to welcome a new member of our community, Rebecca Kush. Thank you so much for being here. Rebecca is President and CEO of CDISC. I know we introduced her in absentia with a longer bio last meeting, but CDISC, as you know, is an international non-profit, which it also supports global platform independence standards for enabling information system interoperability to improve research. From that vantage, appreciate what I know you will contribute as well.

Karen Kmetik will not be here today, but a pleasure to welcome Marjorie Rallins, American Medical Association. Appreciate your being part of today's discussion.

And we'll come back to our first formal action item order of business, which is approval of the minutes. But I want to turn to our extraordinarily able colleague to give some color on all of the work that's occurred between, hard to believe, our last gathering in Washington and today. So very good, John.

John Halamka – Harvard Medical School – Chief Information Officer
Okay. Jon, you got your clipboard handy?

So I want to just review with everybody where we've been and where we're going in this summer camp of standards, because we've actually accomplished quite a lot. And I think Farzad, you say it very well, we've had this tension of adopting things that are mature versus those that are more speculative but more forward-looking, and as I go through what we've done I think you'll actually hear your themes played out.

So in April, remember, we came up with certificate recommendations. And actually those were not particularly controversial, because the technology is widely adopted across all industries and we just specified it to the extent it was necessary to build trust. So that was one example where you probably don't want to under specify security; I think content maybe, security no.

In May we got a number of preliminary recommendations that led to in June, our last meeting, some final recommendations around metadata. The PCAST report was something we've all spent a lot of time reflecting on, and we reduced the PCAST report to a series of data constructs around patient identifiers and provenance and the possible use of privacy flags; possible, not necessarily always used in many architectures. And if you guys, of course, remember the controversy of last meeting, we said there are some pretty simple XML constructs that we could use for this, the CDA R2 headers. And the question was have those combination of XML elements been used in practice widely in healthcare or any other industry, and the answer is well no but it's simple XML. It's name, gender, date of birth, zip code, city, name of the organization—this shouldn't be too controversial. To which all of you said okay the standard seems fine, but we should test, we should pilot, we should make sure it doesn't create undue burden before we require adoption.

And this, I think to the point that Farzad was making, we may, because the PCAST report is actually a novel construct, it's an innovative idea, need to list standards that seem entirely reasonable but in a unique combination haven't been widely deployed, adopted, or tested … Recommend them, pilot and test them, if all works well polish and refine them, issue them to the level of specificity that's necessary to get people started.

Provider directory recommendations was right in the middle of the tension that you described, which is we said there's actually a very mature, widely known standard, LDAP, and there's a set of IHE constructs, HPD, that are very well specified. The challenge is we require for your dream to be reality federation of LDAP, which hasn't been done. So then the pushback was wait a minute, you're going to select a set of standards that not only is not adopted, but actually isn't well formulated for the kind of use case that we envision, this federation of local directories. So we then went back and we asked what are the alternatives, and we came back with the recommendation of using DNS and something that appeared I think first in a Wes blog post, the question microformats or microdata that you might use using existent search technology and simple Web pages to identify contact information and conceivable routing information for provider directory constructs.

Again, this is one where, hmm, has every provider in America created a standard Web page with their e-mail address, their direct address, their digital certificate. No, but are Web pages pretty straightforward to create? Yes, actually the search engines work pretty well. Well, they do, so it isn't completely outlandish to select a notion, microdata, not completely out of specificity yet and search engines not completely out of specificity yet as a direction by which future federated directories could be built upon.

So we want to be clear; we didn't go to the Policy Committee and say we don't like Federated Provider Directories, you can't have one. What we said was if you look at Dixie's maturity and adoption scale and the issues that you described, well there wasn't a widely available, completely adopted, mature, federated system out there we could just lift, and so hence we provided back to the Policy Committee and to ONC a set of not completely specified constructs, which are very forward-looking. And I think, I'm quite optimistic, that telling every provider in America either you personally or through a Health Information Services provider will put up a Web page is a low burden and highly likely to be successful. So I actually hope we get many tests and many pilots of provider directories in our communities that are leveraging some of these concepts, and then as time goes by we can get more specific, and I think early tests and pilots are the right next step.

We heard some preliminary recommendations on patient matching; we'll hear more today.

So where are we today? Well today we have a somewhat abbreviated meeting, and I think you'll hear rich, non-controversial recommendations. That is we're going to hear about things like vocabularies, many, many different vocabularies. I get to use my favorite word here, strong work by multi-disciplinary

teams creating the parsimonious number of vocabularies for the different domains of medications, allergies, labs, gender, code sets, etc. Obviously, everyone in the room we'd like one—one is not possible. Two or three, as you'll see, they've gone SNOMED, LOINC, and a couple of code sets. It's as parsimonious code set selection as can be.

Hear about patient matching. Now there will be, in the interest of the Policy Committee and the Standards Committee working hand-in-hand, a controversial discussion here I think. The Policy Committee wasn't certain that we should specify to a high level of granularity patient matching data elements or algorithms. So what I hope we'll hear today is best minds came together as to what you could achieve using demographics from a sensitivity and specificity perspective that we hope would provide useful guidance to those who need to implement patient matching systems. So, this is from an ONC perspective, what I hope you can do is take the guidance we give and dovetail it with policy recommendations they have made to come up with a thoughtful joint statement. It isn't that we are saying every provider in the country must implement patient matching with name, gender, date of birth, and last four social security, it's if you need to here are the issues and here are the approaches you might take with the outcomes you could achieve.

Then we'll hear about some government surveillance work and where we're going on those standards and whether we should do a version two construct, version three construct; the difference between 231 and 251 to be worked out. And there is additional quality measurement work ongoing today; it's really more about vocabularies and code sets in a joint presentation.

Then that leads us to next month a call rather than I know everyone wants to be in Washington in August, it's delightful—

W
…

John Halamka – Harvard Medical School – Chief Information Officer
Exactly. So lab recommendations, transitions of care recommendations, CDA clean up. And I think a fascinating question that we'll get to debate, and Farzad, it's basically your same theme, I personally have argued that the CDA, although richly adopted throughout the world for many purposes, can be challenging to implement in its most verbose state, and therefore taking out the chaff and leaving the wheat, creating a greener construct is something that's going to reduce the burden on implementers. And so you will hear, I think, attention of those who say the full richness is what we should go for, and others who say the pure and the simple is what we should go for, and figuring out the balance in regulation once the recommendations are made on CDA clean up will be an interesting body of work.

And then, Dixie, I think you'll have some preliminary recommendations on your componentized nationwide Health Information Network direct transport convergence leading us to a final set of recommendations to those components in September.

So I look at the summer and I think we end up with strong vocabulary recommendations that aren't going to be very controversial, enough content recommendations that are going to allow the Meaningful Use stage two constructs to happen, and I hope enough specificity on transport. Because to me, and I've said this for years, if the transport is widely available then the content will flow. And today there's sort of an interesting aspect of Meaningful Use stage one; we together specified the content well enough, but left the transport so vague that it's not testable. And the consequence of that is that we're going to have 50 HIEs or 56 HIEs, or whatever the right number is, each implementing a different set of transport constructs, which will solve local problems well, but as we envision a nationwide Health Information Network will initially create more chaos than unity. And so what you hope is as we move forward with your recommendations there is more specificity, enough specificity, on transport, direct and end win components that get us to this convergence where everyone will start to send data to each other and your dream will be realized. That is we hope.

Now I just dreamt about walking in an alpine environment. I don't know, maybe I am not close enough to this. So I look forward to the meeting today, and thanks, everyone, for coming.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Thanks, John. So we have our work cut out for us in terms of supporting very pragmatic aspects, the standards that turn into implementation specifications, the vocabulary and terminology, lots of discussion there today. But additional work required for the aspirations and products of this activity in terms of value sets specifically, and we'll appreciate the further discussion of that.

As the first panel assembles let me just ask the group if there are any amendments, modifications on the minutes so ably recorded by Judy Sparrow and the ONC staff. … now you—

Carol Diamond – Markle Foundation – Managing Director Healthcare Program
This is Carol. I e-mailed Judy a correction.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Okay. Judy, that correction do you want to mention what it is?

Judy Sparrow – Office of the National Coordinator – Executive Director
I haven't seen it, but I'll look at it when—

Jonathan Perlin – Hospital Corporation of America – CMO & President
Okay. We—

Carol Diamond – Markle Foundation – Managing Director Healthcare Program
It was a misattribution.

Jonathan Perlin – Hospital Corporation of America – CMO & President
I'm sorry, misattribution.

Carol Diamond – Markle Foundation – Managing Director Healthcare Program
Yes.

Jonathan Perlin – Hospital Corporation of America – CMO & President
With that correction then we'll assume consensus on that, and from there we will move into the body of the meeting. As mentioned, Karen Kmetik could not be with us this morning. Indeed, we appreciate Marjorie Rallins being here, Jim Walker is here, I know Jamie Ferguson is on the phone. And is Betsy Humphries on line? Okay. With that then, John, any other introductory—

John Halamka – Harvard Medical School – Chief Information Officer
No. Yes, …

Jonathan Perlin – Hospital Corporation of America – CMO & President
Ready to go. We'll turn to our first order of business, which is a report from the Clinical Quality Workgroup and Vocabulary Task Force update with much appreciation not only to the chairs and co-chairs, but all of the members who have done such substantial work between meetings.

Jim Walker – Geisinger Health Systems – Chief Health Information Officer
Thank you, Jon. Let me add my thanks to the workgroups, both the task force and the workgroup who agreed to three joint meetings to cut the time that it takes to throw things back and forth over the transom. I think the groups worked very effectively, and really did a good job of coming to a minimum necessary vocabulary set that John predicts will be uncontroversial.

So as preparatory works we've had three joint meetings, which have been very productive, and the questions to be answered by the Standards Committee today are to identify potential problems with the set of recommendations. The recommendations are near final; you will see there are some things that

need to be finished up, some questions that were not entirely clear, and some proposed standards that we needed to do a little more research on before we recommended them. But I think it's useful today to go through them carefully to get you thinking about them, to have you respond, both in this meeting and after the meeting, with potential problems so that then the groups can work together during the next month to finish this up and present a set of proposals for adoption in August.

I want to do a little scope setting, because I think there was consensus in the meetings that there are different sets of tasks, and it's important to remember which one we're working on and do them in the right order basically. So the three levels of task that I think we're dealing with are identification of vocabulary so that measures developers, guideline developers, standards organizations have a place to start, then there's a separate question about which ones of these, if any, would become part of HIT certification requirements, and then another question which ones of these would be required for care delivery organizations to meet Meaningful Use and other quality reporting needs.

And so what we're focusing on today is just part of the first, what is the minimum necessary set of vocabularies for creating quality measures; that's really the core question. And then a related question that we also addressed is in some of the vocabularies is there a partial depth that we wanted to indicate rather than the entire use, and ISO 639-2 is an example where there are like 450 categories that would never be either usable clinically or interpretable at any other level, six versions of Ashkenazi Jew, which Andy Wiesenthal pointed out, and so that is part of this set of recommendations. But the other question is we all know that we will need purpose specific code sets, that is not part of this recommendation that's work that needs to be done, and whether and how they become part of certification, at least in my mind, it's something like certified HIT will be able to process the standard codes, but that still needs to be worked out. And then, at least in my view, we shouldn't require any code sets for use by care delivery organizations that haven't been made part of HIT certification; that's just a fool's errand.

And then I want to briefly reflect on the useful discussion about what are desiderata for code set standards, and thanks to the useful e-mail discussion and the discussion this morning I have tried to unpack what I think is the implicit calculus that we all, or mostly all, have been using to assess whether a vocabulary code set can be recommended. I think the first criterion is interdisciplinary applicability. We haven't raised that to explicit conversation, but if it doesn't work for all of the healthcare team then it has serious problems. And that actually has come up in the joint groups' discussions at several points.

The next is what I would call minimal necessary maturity, and it seems to me that that's the question; is it mature enough to be usable. And then the questions are so what makes it mature enough. Well that's obviously partly just open for discussion. I think there are three parts of that. One, is it logically mature, does it just make sense at a logical conceptual level. Is it technically mature, has somebody really worked it out in enough detail that it could be implemented somewhere. And then is there some kind of implementation experience with it, enough to suggest that it is implementable. And so that's the way I think that we've been sort of implicitly addressing that.

I think we want maximum ability to accommodate innovation, and that's then sometimes explicit, sometimes less so. Obviously we want the minimum necessary number of code sets allowed so that people know what to focus on and there's no confusion about where development should go. And then minimum necessary number of codes required so that I think one of our future sets of work is to say what are the minimum, and we've talked about that also, what are the minimum that you have to be able to cope with or be able to use actively, and then maybe you have to be able to use the entire vocabulary, at least in a processing sense.

So in terms of recommended code sets then, as John mentioned, without having had that result really in view when we started this we have ended up with a fairly minimum necessary set of vocabularies or code sets. For adverse drug effects we want to make clear it's allergy and non-allergy. For both of those RxNorm for medication. Inactive ingredients are not fully represented there, but there's a commitment to build them in and there was clear consensus that that would be much the best way to go, even though I guess at that point that part of it isn't mature. SNOMED-CT for non-medication substances and SNOMED-CT for the adverse effect.

There is an open bit of work that we recognize needs to be done in terms of a standardized representation of severity of adverse effect, more important clinically than from a reporting standpoint, although even there you can imagine somewhere down the road reportable quality measures about appropriate clinical responses to different levels of severity.

In terms of patient characteristics ISO 639-2 is preferred language. That gives you more granularity than would ever be appropriate either clinically or from a societal analysis perspective, but is relatively constrained and just needs a purpose specific code set defined from within that that would be actually used. HL7 for administrative gender. PHIN-VADS for race and ethnicity; again, that is over specified and will need a code set within it to make it usable. LOINC for assessment instruments.

One of the themes you'll see through this is that LOINC and SNOMED made a nice pair where LOIONC is more or less the question, the survey instrument or whatever it is, and SNOMED provides appropriate responses and just or if it isn't obvious, and it may not be, if the response is one, two, three, four, five that's not SNOMED, but where a SNOMED code is actually required for a response then it would be SNOMED.

Socio-economic status was referred back to CMS. This is one where there is no logical clarity yet. Socio-economic status is estimated based on a number of surrogate markers, income, zip code, different things, and so what the groups felt clearly was the case is that CMS needs to tell us what they regard as defining socio-economic status so that then we can make a recommendation about the vocabulary in which that would be expressed.

Payer typology this came up in one of the meetings that ANSI ASC X12 and the payer typology look like, to the workgroups, an appropriate code set for identifying the type of payer, but we wanted to go back and confirm with CMS that they thought it was an appropriate categorization of payers.

For the rest I'll try to go fairly quickly. So condition/diagnosis/problem I should say there are some places where QDM, and you've already seen some if you're paying careful attention, where we felt QDM could be recategorized, streamlined, where the logic could be made a little clearer with the purpose of helping measures developers and guideline developers use it more effectively. And this reflects one of those where we thought condition/diagnosis/problem there is this sort of cloud of concepts that are used clinically, but not very carefully defined by anybody; it's one of those things everybody knows what it is, but nobody can define it. But that grouped together would be SNOMED.

Devices we had strong consensus that SNOMED is clearly the best available, clearly either needs expansion or identification of other vocabulary down the road, but there seemed to us no question that it was the right vocabulary to start with and close enough that it was appropriate to identify it as the one to start using.

Non-laboratory diagnostic studies, while radiology images are obviously a significant part of this, what we considered is that there are lots of other non-laboratory diagnostic study results, and think EEGs and pulmonary function testing. They're composed of numbers, often of graphs, and sometimes of narrative, typically of narrative, and so as a group we felt that, and including for radiology images, that LOINC and SNOMED were the appropriate pairing again, and UCUM for units of measure.

One of the ways that we had fairly clear consensus that we want to re-code the QDM was the concept of encounter. The issue there is that, and we kept bumping up against it in the discussion over and over again, that encounter almost ineluctably suggests to people billing and a billable theme, and clearly back to that sort of internal calculus, if we're going to have maximum ability to support innovation this category needs to be every kind of interaction between a patient and some kind of clinician. And one of our goals, obviously, is to make more and more of those interactions not be what have classically been encounters and what have been coded in CPT. And so we kept the word encounter so that everybody would know where we are in the QDM, but the strong consensus was what we're talking about is something like

patient professional interaction. For those it was clear consensus that SNOMED is the appropriate code set.

Something that the teams have not discussed, but will, we've put it on this month's agenda, is whether it would be appropriate, because of the universality of CPT, to say CPT is acceptable when appropriate for MU2 but not MU3 or something like that; make it clear that SNOMED is where we're going, but possibly leave open the use of CPT just for organizational feasibility, both on the part of HIT developers and care delivery organizations for MU2. We clearly don't want to create any impediment to getting MU2 specified built into HIT and implementable by care delivery organizations fast.

Communication, SNOMED-CT. Patient experience, again the pairing of LOINC and SNOMED, as for family history. Functional status is another one that we need to tie up some loose ends. There was a strong representations in the meetings that ICF, the International Classification of Functioning Disability and Health, is appropriate, necessary, and in use at least in some domains, particularly things like OT/PT, for categories of function, for the overall categories, activities of daily living, instrumental activities of daily living, those sorts of things. And that we need to work through a little farther and come to agreement internally, and then make a recommendation to you August on what that looks like, if it indeed is needed, and what ways it would be usable. But everyone was clear that LOINC is the standard that's appropriate for assessment tools and for identifying individual functions, can you brush your teeth, can you dress without aid.

HIT components are simply how do you identify the elements of an EHR or something else so that you know what you're talking about when you talk to yourself or to other people. LOINC for the components, HL7 for messaging between systems and among systems.

Interventions and procedures are another place that we thought QDM needed some logical simplification and restructuring, and the reason is that because interventions and procedures actually represent a continuum from something like changing addressing that is minimally invasive, produces no result, produces no bill, and so is it at the very simplest end of the spectrum all the way to major surgery, which of course has a whole different set of characteristics, and so that it isn't one bucket it really is a spectrum across which there is incremental change from the very most simple to the very most complex. And granted that we kept them separate here just to maintain clarity with the current structure of QDM, and so granted that proviso then we felt that LOINC and SNOMED pair was appropriate for interventions, SNOMED is appropriate for procedures, and obviously you could collapse that down if we come to agreement on simplifying the logical structure of QDM.

Laboratory tests, thank God for mature standards, sort of the usual suspects. Medications, the discussion here was about vaccines, and to summarize there are problems no matter where you put vaccines. But our conclusion was that for things like interaction checking and other clinical needs it made sense, and because RxNorm, we felt, could handle them with some additions in all likelihood, it seemed clear to us that RxNorm was the right place, obviously, for medications, but also for vaccines as not really a sub type of medication, but as a very closely related set of entities.

Physical exam, the same pair. Patient preferences, the same. Risk assessment we felt that LOINC made sense, and honestly I can't remember why we didn't put SNOMED in here. And Pam, if you'll help us remember to clarify that and make sure we have that really nailed I'd appreciate it. Symptoms, SNOMED-CT. System resources, this is how many beds do you have, how many nurses per bed, the sort of system resources that particularly systems need internally to understand themselves, but some of which might be reportable, have reason to be reported more broadly.

And then transfer is another one of those where our conception of transfer clinically has been stunted, as John would say and be right, and so what we tried to think, what we explicitly defined transfer here as any transfer of a patient from facility to facility, from level of care to level of care, so from hospital to home, from hospital and nursing facility, from an in-patient case manager to a home health nurse; that whole set of transfers anywhere across venues of care across the healthcare team. But granted that what we hope is forward-looking definition, we felt SNOMED was clearly the appropriate vocabulary for it.

So welcome your comments and suggestions now, and also after the meeting when it occurs to you on the plane what you should have said. Thanks.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Well let me just first, again, many thanks to you and the team. I think the list is very impressive, all the input that were put forward. You asked in your second or third slide for specific comments with potential issues with the set of the code sets recommended, so with that in mind let's frame our discussion around that. John.

John Halamka – Harvard Medical School – Chief Information Officer
So I'll start with one is that in my travails as I talk to various industries they say, UCUM, oh my God, that's so hard to implement, it's not obvious, and you know when a doctor sees SI notations instead of milligrams per deciliter they're going to see G –3/L –2, isn't that confusing. To which I respond and the alternative is. So I just want to raise it for discussion of the group, because UCUM at times in the last couple of years has had some pushback. Are there alternatives you discussed, is there anything else we should pay attention to? It seems to me that SI units, which is what UCUM basically is, is kind of what is used throughout the world across all industries.

Jim Walker – Geisinger Health Systems – Chief Health Information Officer
I don't believe there were any alternatives proposed in the meetings, but—

Jonathan Perlin – Hospital Corporation of America – CMO & President
Go to Doug Fridsma to begin with.

Doug Fridsma – ONC – Director, Office of Standards & Interoperability
Okay. So I have a bunch of questions. So just as a follow-up to that, with regard to UCUM one of the things that we've talked about when we think about standards is we think about what should be the standard or the way in which things are represented between organizations, and we want to make sure that everybody speaks English kind of between organizations, but if you want to speak German at home that's okay. So I guess one of the questions that I would have is that if UCUM is intended to be sort of a language that we think needs to be standardized for exchange does that preclude someone from saying I got SI units in, I don't want to display that to my doctor because they're going to be more familiar in stones, for example, that you could make that translation. Because I think the risk, and we've seen this in space flights and things that have crashed, where if you don't have a corresponding understanding what the underlying units are you can make inappropriate assumptions and lead to errors. And so I guess the question is if this a recommendation for an exchange standard or is this something that would be deeper in in terms of sort of the example that John gave that you don't want to display those units, but in fact you just want to make sure that there's not an error in someone's thinking that it's in SI units and in fact it's not.

Jim Walker – Geisinger Health Systems – Chief Health Information Officer
That's back to the idea of staging, and I think at this level what we're talking about is the measure specification that would be reportable and not requiring. And I think that's part of minimum necessary, and we probably need to be more explicit about that, is for this use minimum necessary may be you speak English among organizations and what you speak at home is what you speak. Yes.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Doug, you the number of topics you want to tee up?

Doug Fridsma – ONC – Director, Office of Standards & Interoperability
Let me just sort of tee those up. Some of these are notes that Farzad gave me. When it comes to slide 10 we talk about using RxNorm for medications and then SNOMED for a bunch of non-medication substances and things like that. Is that particular slide thinking in terms of a progression or is that kind of you'd like to get all of those things out there? Because so far in Meaningful Use stage one there's been a focus on medication, allergies, and the need to do decision support around sort of drug interaction, some

things like that. Just trying to make sure that is the recommendation to expand allergy and non-allergy to include all those other use cases, or is it to say if we expand it this is the way in which we would do it, or is it a little bit of both?

Jim Walker – Geisinger Health Systems – Chief Health Information Officer
I think it's sort of that maximum ability to support innovation. Yes. So I think that if medications are what measures are written to right now that's fine. Our concern was that there are substance medication interactions that kill people and we didn't want to specify vocabularies that wouldn't be capable of managing that at whatever stage. So I think that's the difference between what's a pointer to people who are going to develop these things versus what's required in HIT or in clinical use.

Jonathan Perlin – Hospital Corporation of America – CMO & President
On that point, I think Floyd Eisenberg is doing some of the developmental work, and looks like he has a response to that as well.

Floyd Eisenberg – Siemens Medical Solutions – Physician Consultant
Thank you. I think just to answer that, in so measures that are already retooled we had to deal with is someone allergic to yeast, and yeast is not a medication. It's a substance, it's not a med, and we had to have a way to describe it. And after much back and forth SNOMED seemed to be the appropriate way. So even though it is innovation we already have the use case that exists.

Doug Fridsma – ONC – Director, Office of Standards & Interoperability
So let me do a follow-up on that, because it's sort of a broader context and I'm wondering if the Committee actually or the working group actually addressed that, and that is this tension between having quality measures that define the entire universe of possibilities that might be there and the work processes and the data collection that happens on a day-to-day basis. I can think of if I've got quality measures that include things like duck egg allergies or yeast it means that each of the physicians, as they kind of go through their work process and see patients, are going to have to include this whole host of things that don't necessarily fit easily into their work process. And so there's this tension between the data that we have as part of the work process and sort of the ultimate goal that we may have to have fully fleshed out, fully formed, perfect quality measures to support the kind of surveillance that we want. So was there a discussion about what is even possible and easy to implement versus what would be the perfect that we'd like to try to achieve?

Floyd Eisenberg – Siemens Medical Solutions – Physician Consultant
Well I'd like to respond to that from the quality measure perspective, because measure developers clearly tried to take that into account. And in the two use cases you just mentioned, whether it's egg or substance, they provide the alternative of allergy to the vaccine or allergy to the substance so that whatever the doctor decides to do, and there may be some who are putting egg allergy into their allergy list or problem list, and by doing that they allow either. And that's, I think, an appropriate approach for the measure developers as this moves, but we need the way to say it.

Jim Walker – Geisinger Health Systems – Chief Health Information Officer
This is Jim. Just in terms of clinical reality, clinicians currently do put things like yeast into the allergy bucket is what developers created. They know it isn't an allergy or it may not be an allergy, and they know it's not interoperable and no one will be able to do anything with it, run any checking or anything like that, but they still put it in. So I think both in terms of where a small set of highly important measures would take us and in terms of clinical reality it's just enabling people to do what they're already doing in a way that would actually result in something. One of things that scares me as an implementer is that users are not supposed to be so sophisticated that they know if they put yeast in there nothing's ever going to happen with it; they could understandably assume that that is somehow actually computable and will yield some safety benefit when nothing like that is true.

Doug Fridsma – ONC – Director, Office of Standards & Interoperability
So then on slide 15 one of the things that you indicate there is that recommended code sets for medication, including vaccines, should be RxNorm. So in Meaningful Use stage one we adopted CVX as

the vocabulary code set for vaccinations. So implicit in this statement is for us to change Meaningful Use stage one and the code sets that were adopted there and migrate those to SNOMED-CT. Was there a discussion about sort of moving the current recommended standards to a new one?

Jim Walker – Geisinger Health Systems – Chief Health Information Officer
Yes.

Floyd Eisenberg – Siemens Medical Solutions – Physician Consultant
Well actually the discussion as it went said that for reporting to public health CVX, and actually they added to that MDX, may be appropriate, but for actual use within the EHR to be able to do the interaction checking, this was the discussion of the group, that RxNorm seemed more appropriate. And as you'll see in even the retooled measures, both are provided, but for the measurement the team seemed to land on RxNorm.

Jonathan Perlin – Hospital Corporation of America – CMO & President
And Marjorie has a comment.

Marjorie Rallins – AMA – Director, CPT Clinical Informatics
Okay. And one point with respect to transitioning between stage one and stage two is we have discussed maps that would be available. I'm not sure if there are any maps between CVX and RxNorm, but in sort of the transition in general we did entertain that discussion.

Jim Walker – Geisinger Health Systems – Chief Health Information Officer
Can I ask, are there other comments on that topic from the group while we're on it? I think we probably ought to do topic-by-topic rather than one person and then—

Jonathan Perlin – Hospital Corporation of America – CMO & President
That's a good approach.

Jim Walker – Geisinger Health Systems – Chief Health Information Officer
Any other? Because I think this is clearly one of the places that was trickier than others, although I think the clear consensus was that it made sense to have vaccines in RxNorm. All right. Well we'll make a-- Judy, did you—?

Judy Murphy – Aurora Health Care – Vice President of Applications
Well the only comment I'd have is, just from a practical standpoint, that is where we've been documenting vaccines. So we do put them on the medication list, they are on the medication administration record, so it just seems logical that we consider that as we think about medications.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Thank you. That's a good point in terms of clinical workflow and clinical, at least what clinicians are accustomed to. That's right, you look on the EMR to see what's been put in them, regardless of whether it's vaccine or med.

Doug Fridsma – ONC – Director, Office of Standards & Interoperability
And then sort of the last question from my list that parts have dropped of it, physical exam on slide 15. The implication there, of course, is a, again, kind of a big change in work process that is different than what we had in Meaningful Use stage one. This would suggest that the physical exam question and answer would be completely coded. That would have a profound impact, I think, on work process. Was there a discussion about, again, that data capture versus perfect quality measure interplay with these recommendations?

Jim Walker – Geisinger Health Systems – Chief Health Information Officer
Maybe we should make it more explicit. At least my conception was that lots of physical exam will still be documented in narrative text, but if you want to code the … 16 criteria for low back pain in a data capture tool you would use SNOMED for each one of those 16 so they're computable, so that it doesn't prejudge

the question which parts of the exam are going to be computable and which parts are going to be free text. Even specific elements might be free text if they have no computability requirements, although I'm not sure what those would be.

Jonathan Perlin – Hospital Corporation of America – CMO & President
The topic, as Stan Huff just said, keep in mind we have still online and David McCallie, so we're going to stick on this topic for right now, LOINC and SNOMED and …

Stan Huff – Intermountain Healthcare – Chief Medical Informatics Officer
Yes. I was just going to clarify, this is Stan Huff, saying that you're using LOINC here doesn't prejudge which things you're going to leave as text, because LOINC has a combination of things that are essentially just names of headers so that you know this is vital signs and then you just put in text whatever is in vital signs, as well as blood pressure, heart rate, all of the discrete variables so it doesn't prejudge what level. You could actually there's a code that just means this is a physical exam and everything is free text inside of there that's a LOINC code for that, or you can have every discrete variable. And so saying LOINC here actually leaves open completely to what degree you code or don't code that data.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Thank you, Stan. Believe David McCallie had a comment on this topic.

David McCallie – Cerner Corporation – Vice President of Medical Informatics
Yes, this is David McCallie. On the same question it seems overly simplistic to just say use LOINC for the question and SNOMED for the answer. It's a little bit like here's a dictionary now go speak French. You need some kind of a grammar that says what belongs with what, what matches what if you really want to get computability. If you can just pick any LOINC and pick any SNOMED and assume that's computable that's incredibly naive. So I mean, at least from the point of view of really structured documentation, if you're just trying to report a measure where the measure defines the constraint of choices, pick one of these and pick one of these, maybe it would work. But, Stan, I'd like you to weigh in; you can't just throw a bunch of words out there and think you can now capture computable, descriptive metrics about a patient. Would you agree, Stan?

Stan Huff – Intermountain Healthcare – Chief Medical Informatics Officer
I agree completely. And I appreciate the forbearance of the Committee always bringing up the fact that you need models, basically, to make those connections, that with any of the measurements even saying a LOINC code is not sufficient you need to say other things about your assumptions about abnormal flags, your assumptions about the unit of measures that are appropriate for that particular thing, all of those, and that general category are models. And to really get to interoperability, true interoperability, you need detailed clinical models. And we're working on that, and one reason, though, I think is not to do it is that we're just coming to a process where we can get consensus around those kind of models, and so there's nothing to use right now, but there should be within a year or two.

Jim Walker – Geisinger Health Systems – Chief Health Information Officer
This is Jim. Just quickly, the QDM, I perhaps should have said that QDM does provide at least some of that grammar. So you're absolutely right, that's back to the scope question, this is granted that you have to do all of those things what language are you going to use to do it. This is not meant to say this is the whole answer to anything, except if you're going to do discipline job right which language are you going to do it so that you have something …

Jonathan Perlin – Hospital Corporation of America – CMO & President
…

Stan Huff – Intermountain Healthcare – Chief Medical Informatics Officer
The usability issue is that if you want to automatically extract some of these measures as a byproduct of workflow you're going to have the clinicians capturing it in the target language, which means you need a

discrete clinical model or you force the physician through some idiot's checklist of things that don't fit a narrative style at all.

Jim Walker – Geisinger Health Systems – Chief Health Information Officer
Could not agree more.

Stan Huff – Intermountain Healthcare – Chief Medical Informatics Officer
I just think we've got a long way to go before this really works.

Jonathan Perlin – Hospital Corporation of America – CMO & President
I think we've captured for the feedback your association with the QDM requirements. I did hear someone online trying to weigh in on this topic.

Clem McDonald – Regenstrief – Director & Research Scientist
Yes, this is Clem McDonald. I'm calling in covering for Betsy, and I've been chomping at the bit but I was muted. Maybe good for everyone else.

But in terms of the discussion, I think some things that were drafted out in terms of the LOINC SNOMED pairing was that there are questions in LOINC that have specific answer lists, and those if they are not SNOMED will be made SNOMED. And these are very answerable, like Glasgow Coma score and Apgar score and lots of those things, so this is not throwing the physician into sort of a wilderness. The second thing was where there weren't those things and they are necessary they be constructed in that formalism to that pairing. So that kind of got dropped off.

There was a discussion about UCUM I was trying to comment on, and milligrams per deciliter is an actual valid UCUM unit, but I don't think we need to talk about that too much.

But I just wanted to clarify that thing about-- And regarding the CVX codes, I did not hear us deciding that CVX was gone, but rather that we had to research a few more things. And I was doing that, and I haven't gotten back to the Committee. I hate the idea of breaking the fairly wide adoption of CVX now, so I'll throw that back to the table.

Jonathan Perlin – Hospital Corporation of America – CMO & President
So let's just summarize the bidding on a couple of things. Appreciate that. Jim, I think as the way you teed up this particular discussion there was scope that was initially was around the QDM, and then there was led discussions about the data model, the workflow, and Clem's comments about pairings. So there's a body of contemplation for the workgroup forward.

On the CVX, I think there was good discussion on the workflow and the clinical use. There is still CDC and state health interest in CVX for the biosurveillance for the reporting. And, in fact, before we close today, as we discussed, an investment … a couple of things. When there are updates to very well instantiated sets of standards in the sense since LOINC and CVX the group would consent and recommend to ONC adoption of the more recent version, in fact those two are part of today's set of activities.

So I don't think we're at the point where, and certainly would need work with ONC and Policy Committee, saying that we will substitute one for the other. But we teed up a different question, which is the public health aspect and the workflow aspect, and I think we have to sharpen our clarity on that.

Let me ask, Doug, any comments on that framing? Is that your interpretation of our approach as well, CVX, RxNorm?

Doug Fridsma – ONC – Director, Office of Standards & Interoperability
I think one thing that would be helpful is to clarify those things that are setting an incremental path that says if we decide that this becomes an important aspect then this is the vocabulary to use. That's a slightly different thing than to say we want to code the physical exam for quality measures, and therefore

we need to have all these things. That's, I think, helpful, because we certainly have to get guidance from the HIT Policy Committee in terms of what their objectives are and make sure that we tie those things together. I think we do have to resolve some of the issues about what we adopted in Meaningful Use stage one and the rational that came from this Committee in terms of recommendations and what that migration path might look like.

There's another piece in here around devices that says SNOMED for now, but it doesn't articulate what the next thing might be. And again, we have to be very careful about the industry that we want to move forward, but we don't want every 18 months to have a new vocabulary or a new value set that is required. So if we say SNOMED for now, well do we have something else coming down the pike, should we do a stutter step. So there are some competing interests, there is the workflow issue; we need to balance all those interests as we think about it ...

Jonathan Perlin – Hospital Corporation of America – CMO & President
That's helpful. Let's take that as guidance …, and specifically the workgroup. John has a comment and then we're going to go sequentially by particular recommendations, but we will pick up with Wes, David, Stan Huff, and Nancy Orvis. Steve.

Stephen Ondra – NeHC – Senior Policy Advisor
I don't have a tent today, so I didn't want to put Jodi's up to confuse people.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Oh okay. And Marjorie, do you have a clarifying on this last thread of this discussion?

Marjorie Rallins – AMA – Director, CPT Clinical Informatics
At the closing I had one comment on the effort.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Okay. John, let's go to John for …

John Halamka – Harvard Medical School – Chief Information Officer
How about this as an example, so Beth Israel Deaconess happens to use a commercial product called First DataBank, and it happens to inside its internal systems to use GSN and other SDB proprietary vocabularies to record its medications. However, whenever we send a list of medications to any external party for clinical care we use RxNorm codes in the continuity of care document that leaves our system. They are not stored natively in RxNorm, but all external transmissions are. Whenever we send an external transmission of immunization data to the Department of Public Health we use the CVX code. Doctors, however, are not putting CVX codes in nor do we send for clinical care coordination a CVX code to a receiving physician.

So in a sense what we're saying is it's the difference between native recording and interoperable vocabularies for a particular purpose; RxNorm for care coordination, quality measures, etc., CVX for public health reporting, and internally whatever is appropriate as long as it's mapped.

Jim Walker – Geisinger Health Systems – Chief Health Information Officer
That's what I tried to get at, intended to get at with the scooping, is this is about how the measure would be written not about any requirement on either the HIT developer or the care delivery organization at this point, just how it would be communicated. And maybe that bears on the-- I'm not sure that our discussion of the vaccines really reflected that logic clearly, so we'll have to—

Clem McDonald – Regenstrief – Director & Research Scientist
This is Clem again. One more thing on CVX. I talked to a number of practices, and they actually enter into their systems, these are clinical medical record systems, they enter CPT codes, which do have a mapping to CVX so they get the CVXs internally. They're not doing prescription writing, I mean they're not pharmacies, and they said they get the manufacturer to ship them the vaccines so they're not interacting with pharmacies in private practice.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Thanks. Okay, let's go to Wes Richel for the next round.

Wes Rishel – Gartner, Inc. – Vice President & Distinguished Analyst
Okay. So I'm going to go back to UCUM. But before I do that I just want to say that, Jim, that I thought this was a tremendous piece of work. Just to have the entire overall scope of these issues pulled together at one place and sort of a strategic set of variations on how to approach it I think that's an enormously valuable piece of work, and thank you very much.

Now I'm going to pick on UCUM. John mentioned at the start that there are people who have pushing back, and I'm one of the back pushers so let me say why. There are almost two UCUMs. In theory, UCUM is not a list of units of measure; it is a grammar for expressing units of measure. So there are so many different ways to measure mass particularly or quantity particularly with multipliers based on order of magnitude and so forth that the people who developed UCUM said well let's get back to what it means, let's express that something per deciliter is per tenth of a liter and so forth, and they created a little language. And the use of that language is great, because it means that anyone who gets a unit of measure and just has to do the language work to recognize and they know how to plug it into the formula and compute it. So this falls exactly into the category that Farzad started out talking about this morning, which is the relative trade offs of people who are used to having a list of codes that they can pick from and people who are used to expressing things in a language and writing interfaces, so that they don't just store that code or look up that code and see if it's valuable, that they actually have to now have a new algorithm to compute whether it's valuable and so forth.

So if there's a difference, if there's an alternative to UCUM, it's a list, an ISO list of standard units of measure. My only hope for using UCUM is if there is a list of how units of measure are expressed in UCUM that it is reasonably complete and we can give that to people as a table as opposed to a specification to write a new piece of code then I think that would be far better for getting to the average users.

And I think we've already discussed it, but this is not meant to affect the user interface, it's meant to affect the inter enterprise interface; you're still going to measure blood sugar differently in England than you do in the United States with different units and present them to the clinicians in a way they're comfortable with.

Jim mentioned an allergy bucket in part of this discussion, and I know that's a term that's specific to one EHR vendor. So I wanted to confirm when you talk about the bucket you're talking about the leftover terms that aren't coded, right. So there may be a list of coded allergies then there is a bucket for those that aren't coded.

Jim Walker – Geisinger Health Systems – Chief Health Information Officer
Even some allergies aren't coded. My real concern is logical; that the discussion has been allergies, but it doesn't consider the fact that what clinicians think of is reasons not to give the patient the medicine. And so that's the idea of allergic and non-allergic is all of the reasons not to give the patient the medicine. Maybe you gave them medicine and they end up in the hospital for two weeks; they're not allergic to it, it just creates an incredibly severe adverse effect. So adverse effect really is the technical term rather than saying allergy, which sometimes in at least language that isn't talk that isn't really careful, it is almost used as a surrogate for adverse effect.

Wes Rishel – Gartner, Inc. – Vice President & Distinguished Analyst
Great. And I think that's an important distinction. I, in pursuing a more generic topic, which is whether for anything to be coded everything has to be coded.

Jim Walker – Geisinger Health Systems – Chief Health Information Officer
No, I think, at least I think our conception was it should be codable.

Wes Rishel – Gartner, Inc. – Vice President & Distinguished Analyst
Well so the definition of codable then is that every possible concept that any clinician could use has to have a code for it, or that there are codes for enough of them that some communication is computationally interoperable. For lower probability situations it may not be. And I agree that it has the very concern that you've mentioned, which is that it may create an expectation of a safety clinical decision rule, firing, or something like that, when it can't be because it really wasn't the coded one. Nonetheless, I think if we're going to take systems from where they are and carry them forward we're going to have to allow in all of our descriptions and logic and certification testing for the case of I don't have a code for this, but here's an English language expression of it.

Jim Walker – Geisinger Health Systems – Chief Health Information Officer
So in my view, at least, the idea would be a set of codes that I could pick from and an other, so I could put in other, and partly so then we can capture that and send it back to the vocabulary maker and say here's another one that's … Absolutely.

Wes Rishel – Gartner, Inc. – Vice President & Distinguished Analyst
That's indeed one of the reasons. And it's equally important to say we've identified these codes that must be captured, because you're not going to pass certification if you're sending those three. But you just can't, if you try to make it perfect then you don't even get to …

Jim Walker – Geisinger Health Systems – Chief Health Information Officer
That's why the purpose specific code sets that are a later phase of work are so important, because that's exactly where you say okay what are the ones that capture 90% of the business or—

Wes Rishel – Gartner, Inc. – Vice President & Distinguished Analyst
Right.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Just an editorial on this is that, and I'm going to assume that we have no further input on UCUM specifically?

Clem McDonald – Regenstrief – Director & Research Scientist
This is Clem. Could I for the UCUM?

John Halamka – Harvard Medical School – Chief Information Officer
I was going to say I just sent Jim and Wes a canonical list of commonly used UCUM codes that is in a nice tabular format on the HL7 Website.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Was that Clem who is trying to—?

Clem McDonald – Regenstrief – Director & Research Scientist
… for UCUM. Right.

Jonathan Perlin – Hospital Corporation of America – CMO & President
I'm sorry one at a time. Is that Clem; were you trying to weigh in on this?

Clem McDonald – Regenstrief – Director & Research Scientist
Yes.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Please.

Clem McDonald – Regenstrief – Director & Research Scientist
I can weigh?

Jonathan Perlin – Hospital Corporation of America – CMO & President
Is it on UCUM?

Clem McDonald – Regenstrief – Director & Research Scientist
Yes. Yes. I think it really is redundant with what John just said, but I wanted to ask Wes if we did get a good list would he be less cantankerous about it. Because NOM could produce one or manage one, I believe, as well, but you already got one that's fine, too.

Wes Rishel – Gartner, Inc. – Vice President & Distinguished Analyst
I'll be as cantankerous.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Okay. Now let's take the second concept on an allergy, and there's a table of concepts of about allergy to active ingredient, reaction to inactive ingredient, and—

Stan Huff – Intermountain Healthcare – Chief Medical Informatics Officer
I was on UCUM as well, if you just want to—

Jonathan Perlin – Hospital Corporation of America – CMO & President
I'm sorry. Stan, go ahead.

Stan Huff – Intermountain Healthcare – Chief Medical Informatics Officer
And it follows on very well. At Intermountain we've been using UCUM as a basis for a long time, but well a couple of facts. One is 17 actual representations cover like 90% and the total number of things that we ever use are less than a hundred, and so you've got this sophisticated machine that you don't have to-- The point being that exactly the way to implement this is to implement it as a standard coded field in all of your software, and then all you do is translate from your whatever representation you want your user view to the standard UCUM representation when you message it. And so it's actually exactly analogous to the use of any standard coded field in your software, and people, I think, are trying to make their software so that they can do an expression language in the user interface, and I think that's going way past what you need to do. Just treat it as a standard coding or user interface and translate it to the UCUM expression as a standard representation when you talk outside your enterprise.

Jim Walker – Geisinger Health Systems – Chief Health Information Officer
Well we know we code blood sugars as milligrams per gallon or something …

Stan Huff – Intermountain Healthcare – Chief Medical Informatics Officer
No. Or you know space ships per light year or whatever you want.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Okay. So you introduced the other topic of allergies. Is there any specific input on allergies as well? Nancy Orvis.

Nancy Orvis – U.S. Department of Defense (Health Affairs) – Chief
I wanted to say over the last five years when some of us in the federal agencies really looked at getting information into SNOMED to support allergies I wanted-- And it brings up this issue of when you just say use SNOMED which tree or hierarchy do you use. Allergens could be broken out, when we looked at it and we worked for the FDA on that, were environmental substances, food substances, and then there's the medication substances. And we could or could not say this implies when you look at this adverse effect field and you want to record substances you could implement it by those groups, so it would be easier for physicians or other nurses to find. Because ultimately, and we have gone through the pain with DoD and VA, trying to match list of allergens across two organizations, and that's a humongous job when you're trying to look at everybody's words that they've used to represent different things.

And so I would if we could recommend something in that that said of course when you're talking about recording for allergies the SNOMED-CT hierarchy does include separate source sets that it came for

foods, food substances, and for environmental substances, and then the medications. Because then you could easily use something like a First DataBank or other commercial projects, like MicroMedics, as your knowledge base where they have some of those relationships in there because they're concerned with food reactions to medications or something like that. But it really does, to my experience in trying to implement this, it does help to have a universe of coded subsets for allergens and to know that they exist by an allergen subset.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Really good point, and I think Jim's concern about the logic and real world implementation it dovetails or it intersects with that, even within the zoology of environmental pursuit versus medication. And any clinician in the room will quickly gravitate to the relationship between shellfish implying iodine, implying iodine based contrast media, and so then so the individual who may have had an experience with any one of the three might be represented with any one of those three terms, which Stan, your three groups of medication, food, and environmental.

Clem McDonald – Regenstrief – Director & Research Scientist
This is Clem—

Nancy Orvis – U.S. Department of Defense (Health Affairs) – Chief
What I did want to mention on that, though, was it depends. The patient won't often tell you I have an iodine reaction, so shellfish is bad. They're going to say either I took this commercial off-the-shelf drug and I had a terrible reaction and here's the name of it, or this is when I go out to seafood restaurants I get sick; it might be as broad as that. And one of the things you have to be careful of is the historical background of a lot of medical records; it will be as broad as that that it was a brand of aspirin or it was something else, and you won't have any more information. And you're still going to want to be able to use that 10-year old recording of that patient in terms of your current recording. So what you record now may be codable, but what you may have as an historical allergy may not be, and you're going to have to translate that.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Appreciate that. Let's Clem wanted to weigh in on this, and then back to Jim, then we're going to hit the next topic.

Clem McDonald – Regenstrief – Director & Research Scientist
I think the discussion has diffused our discussion from the subcommittee--it got a little diffused. As I recall, what the decisions were made on the task group was that RxNorm would be the drug allergy, it would be the active and inactive ingredients, and a process is underway to get the inactive ingredients in and the classes for drugs, but not food and non-things that you get in your mouth as a drug. And we have to remember that the drug allergies computer systems have a good way to stop, because physicians order drugs; patients don't usually enter the food in the computer before they start eating. So it is a different space and it's different issues, but it's not as easily to automate the capture of it, I mean the blockage of the eating.

Jonathan Perlin – Hospital Corporation of America – CMO & President
I appreciate the scope reminder. Jim, closing comment on this topic?

Jim Walker – Geisinger Health Systems – Chief Health Information Officer
Thank you for your comments. We'll try to make good use of them and—

Jonathan Perlin – Hospital Corporation of America – CMO & President
I meant the allergy specifically, not the entire thread, because I know there are a couple that are out there. Steve has been very patient in that.

Stephen Ondra – NeHC – Senior Policy Advisor
I'm just getting in the queue for a couple of things that I'm going to ask Judy …

Jonathan Perlin – Hospital Corporation of America – CMO & President
Oh okay. Nancy, your card was up, was that the issue or did you have another thread that you had wanted to introduce outside of allergy or topics we addressed?

Nancy Orvis – U.S. Department of Defense (Health Affairs) – Chief
No, but I do think it's a point of clarification that for both the sub attributes of RxNorm it goes back to universal identifiers, which were the CAS IDs that we created these separated things called the EPA and both the FDA have made it their job to have universally free available identifiers for all substances of the world, so to speak. And so that it's the same source, it's feeding that field within RxNorm and it's the same field as feeding other trees within SNOMED-CT. That's all I wanted to say.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Okay. Well very much appreciated the different topics, so now we will go back to Doug and Steve, who appear to be sharing a card today.

Doug Fridsma – ONC – Director, Office of Standards & Interoperability
In an effort to economize we're going to have one card between us. Just a couple of other questions that I'd like, and it isn't necessarily directly just to the vocabulary, in fact I'm looking at Judy over here. Okay. So one of the things that Farzad did is he sort of teed up that we realize that we have multiple levers that we can look at, so we have standards, we have implementation guides, and we have certification criteria. And so one of the questions that I would have is as we look at these things are there other levers that we can use that will help us sort of achieve the goals that we have. So it may be that it isn't so much the standard that we need to do, but we need to have some certification criteria. I know there's been discussion about we want to send conservatively conforming to a subset of the standards, but receive liberally so that we don't break when people send us other things. So I think we need to think through certification and testing strategy in relationship to the recommendations of the Vocabulary Workgroup to make sure that we have the coverage that we need.

I think the last thing that I would also add, and this is probably more to the Vocabulary Workgroup, we are on an incremental path and it's hard, and we need to try to do everything we can so that providers and patients and vendors and the people that are out there can be successful. So one of the questions would be is that as we go through this what are the other tools, resources, things that will make this better that could help. So, for example, if what we say is that, and you mentioned it earlier, is that we believe that there are mapping vocabularies between RxNorm and CVX and we think that that would help, we need to also think about what are the other things that will make this successful. Because if we put standards out there and say this is what we expect people to do, but we don't provide the back up around making sure that our certification criteria match, that we have implementation guides that are clear, and that we have tools and resources that will help people be successful, the standards alone aren't going to get us there.

Jim Walker – Geisinger Health Systems – Chief Health Information Officer
We actually had started to discuss some other mappings, but Betsy and I felt that it would be more mature for discussion in August, the team really hadn't had it. But we totally agree with you on this. But what we're trying to do here is just say if you are trying to do this right now, and that goes back to the devices SNOMED for now, what the, what's that, well if you're trying to do it right now you need a language to identify a device, we thought, and I think the very clear consensus was that SNOMED was clearly the best there is, even though it may well be superceded. And I guess I thought also was that the devices that need to be specified for measure development in the next 18 months would be a fairly constrained list, and so it wouldn't be a lot of rework.

Jamie Ferguson – Kaiser Permanente – Executive Director HIT Strategy & Policy
Hello, this is Jamie. If I could respond also to Doug's point.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Let's take Jamie and then Stan on this topic specifically, and then we're going to go to Wes and Liz for a couple of final comments on this overall discussion.

Jamie Ferguson – Kaiser Permanente – Executive Director HIT Strategy & Policy
Okay. Hello, I just wanted to note and remind the group, the Committee, that in responding to Doug's question about how can we make this work really for implementers what we recommended, I think, in our last couple of presentations is that in general the recommended vocabulary standards two things. One is they should be put into certification criteria before the use of them is measured in the Meaningful Use incentive measures so that the capability should exist in the implemented EHR technology before it actually has to be used and measured. Then the second thing is that I'm sorry Betsy is not able to be with us here today, but the NLM really is already providing many of the subset and cross map resources; maybe not everything, but really those things are being provided today, and I think we may need some guidance to point to those existing resources.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Want to weigh in on this topic?

Stan Huff – Intermountain Healthcare – Chief Medical Informatics Officer
It's going back to the device, just the discussion around devices. There are two competing device terminologies, UMDS and GM, I may not get this right so somebody may, but and one of those actually is probably going to turn out to be the terminology that we want to use long-term, but there are intellectual property issues and organizational issues that we expect to be resolved in the next year to 18 months, and that's really more the story about what's going on with devices. So that's why that curious for now is in there, because there are two leading contenders. You can't choose one of those; choosing one of those right now would have burdensome intellectual property sort of issues, and so SNOMED covers what we need to do now and let's, exactly sort of what we were talking about, let's let the field mature until one of those is going to be a clear choice, an easy choice, a year or so from now.

Jamie Ferguson – Kaiser Permanente – Executive Director HIT Strategy & Policy
This is Jamie again. Can I just jump in on the devices with a very quick comment please? Part of Betsy's—

Jonathan Perlin – Hospital Corporation of America – CMO & President
Yes, and then we have … on this topic as well, Chris Chute.

Jamie Ferguson – Kaiser Permanente – Executive Director HIT Strategy & Policy
I'm sorry. Part of Betsy's testimony on the previous vocabulary recommendations I think said that the NLM is in the middle of the negotiations with both between GMDN and IHTSDO, and they anticipate that the GMDN will become a part of SNOMED and that is part of the path to resolving the licensing issue that Stan just mentioned. And I think we also said previously that the GMDN, which is expected to become part of SNOMED, is also being picked by the FDA for device identification, or rather is proposed by the FDA for device identification in their UDI rule.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Terrific. Chris Chute and then I have …

Christopher Chute – Mayo Clinic – VC Data Gov. & Health IT Standards
Those were my points; Jamie made them.

Jonathan Perlin – Hospital Corporation of America – CMO & President
And for background, Dr. Halamka's July 7, 2010 blog would be a great source of background on this. The—

John Halamka – Harvard Medical School – Chief Information Officer
I like all the controversies and all these point the good people make.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Steve, I'm sorry was it on this topic or a different topic?

Stephen Ondra – NeHC – Senior Policy Advisor
Mine's different. …

Elizabeth Johnson – Tenet Healthcare – VP Applied Clinical Informatics
This is Liz Johnson, and I wanted to do is say as I look at what you've done, Jim, which is great work, I really think that Judy and I have some work in front of us that Doug was referring to where we do the cross match between the certification criteria and what you're suggesting, because the practicality is not clear. And I think as we look around and we talk about feet on the ground and people being able to use this we agree with your selections; it's actually translating it into the world of implementation that has to get done. I think that's where you're going, Doug. And that work has to get done, because when we start talking about stage two and we look at that standards that aren't there yet you guys are getting really close, but the people that are trying to prepare now are saying what do I use now. So we take that as a challenge.

Jonathan Perlin – Hospital Corporation of America – CMO & President
I hear just the sequencing and prioritization. It's just to the point; I appreciate the connection to the implementation guidance and the work of the Implementation Workgroup.

Wes, before we go to Doug and Steve for final, did you have some?

Wes Rishel – Gartner, Inc. – Vice President & Distinguished Analyst
I pass.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Okay, thanks. And Steve.

Stephen Ondra – NeHC – Senior Policy Advisor
All right. Thanks. I think you can tell by the amount of discussion how great the work is, so I'll just continue on that. I think to pick up on something that John H. said and Jamie mentioned as well, and this is something I've grown a little bit of a sensitivity to and this is more of a Standards Policy point, that we need to be fully aware of situations where from a CQM development perspective that it comes with an approach for specific code sets that we've made a conscious decision don't align with other code sets that we want for other purposes, so CVX and RxNorm is an example of that. And then on slide 11 for race and ethnicity and for preferred language there are differences than with what we currently have today with respect to OND race and ethnicity codes and what the IOM has recommended, and the Policy Committee told us to look at the IOM report on race, ethnicity, and language.

So if we want to make, and this is where my kind of standards policy question point comes in, if we make a conscious decision, you all as the Committee I should say, the royal we, that you want to have these different approaches where if different code sets are used then you'd want to make that clear to the industry that that's the intent. Because I think a lot of things that we've heard in terms of just general feedback have been that in addition to the 30 or so certification criteria that we have that expressly indicates standards that we've adopted in our rule there are the CQMs, and they could impose one for one additional requirements with implicit additional code sets that we have not expressly adopted in our list of standards. So if we didn't expressly adopt RxNorm for stage one certification as a called out express standard, but it if exists in a CQM then that needs to be implemented in some form to satisfy the CQM. So that conscious decisions we need to be aware of with respect to how they relate; if it's just for the CQM approach then we need to make sure that that's clear to folks, if it's for a data capture and for other clinical uses be sure that we understand why we're using specific code sets in different cases.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Appreciate those comments. Just note, pure personal response, I try to be very neutral, but understand the reality of that. As we seek to move forward the most parsimonious and really practicable approaches when we begin to develop enough of a base of code sets that the data model then supports the type of analytics that the CQM would aspire to. And so I understand it's going to be either or, but as we build forward to here would just agree with Wes' characterization; this is an extraordinary contribution, because

it also telegraphs the go forward, as well as creating a set that begins to in aggregate provide basis for a data model that allows a more sophisticated use that is the basis for not only the quality metrics and the aspirations there, but the view fundamentally is of interoperable health information.

Marjorie Rallins, you were waiting patiently for any comments, so—

Marjorie Rallins – AMA – Director, CPT Clinical Informatics
Well I'm making my comments initially from the measure development/developer perspective, and it relates to the incremental path that Doug raised and Jamie Ferguson's comments on getting the vocabularies ready and in use now in anticipation for stage two and stage three. That's also very relevant from a measure developer perspective in that we're getting our performance measures ready now; we have a model that we like to use, the quality data model. I believe there is an expectation that our performance measures that we're getting ready for stage two and stage three should reflect the recommendations from this Committee, and the quality data model that will result from this.

However, that's a bit of sort of there's a logistical challenge with that that I think we'll all have to think about. It's a little bit out of scope for this discussion, but it's really relevant, because at the end of the day we have to work now but we want our quality measures to be workable according to these recommendations.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Well stated, exactly the intention and the work that Jim Walker and his team with the Clinical Quality Workgroup will be wrestling with then reconciling the recommendations from this set of activity with the quality measures that are coming forward.

Jim, anything you'd like to offer on closing on this session?

Jim Walker – Geisinger Health Systems – Chief Health Information Officer
No. Keep your comments and suggestions coming.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Terrific. Thank you for really an extraordinary body of work. This, I imagine, will be part of a set of draft recommendations that we'll adopt a forum that we will formally recommend from the Committee at probably, Judy, our next meeting or thereabout in order to keep apace of the real world. But a very focused discussion on each of the points, and a terrific set of fundamental tools with which to move forward, so thanks to all who participated in that and the great discussion.

We now turn to John Halamka to introduce our next topic, and a set of recommendations that in fact is one step ahead in terms of process and a set of recommendations for discharge ePrescribing.

John Halamka – Harvard Medical School – Chief Information Officer
Great. So thanks very much. Just to tee this one up, understand we all widely use today the NCPDP SCRIPT standard for the ePrescribing typically in ambulatory settings that goes to retail pharmacies and mail order pharmacies, but we have different workflows within hospitals, and hospitals may have an in hospital pharmacy. It may very well be that as patients are discharged patients wander down to an organization operated by the hospital to pick up their meds. Or maybe not, maybe it's actually that commercial provider, commercial pharmacy within the four walls of the hospital.

So the challenge that the group that was led by Jamie, and I believe Scott Robertson is going to present this particular work, is if you are in a hospital to provide a discharge medication and you want to go from the doctor's brain to the patient's vein and have everything fully electronic how do you support both workflows, the in hospital owned pharmacy, the retail or mail order pharmacy, and do it with the smallest number of standards that will meet Medicare Part D, existent infrastructure and practice.

And I think, to my point about today's meeting being rich but not necessarily controversial, I think they've done a great job. And, Scott, look forward to your remarks.

Doug Fridsma – ONC – Director, Office of Standards & Interoperability
Jon, before we begin I want to just sort of set some context and give a brief overview of a whole series of things that are going on, and then turn it over. I'm not sitting up there because these are the folks who are going to be sitting up here who are doing all the work, who are really doing a tremendous job in a lot of these activities.

I just wanted to give you a quick update on a couple of things. One is last month we reported on the CDA consolidation that had gone through the HL7 ballot. I'm happy to announce that that has been approved now for a draft standard for testing in use. I want to applaud the participants of HL7 and the leadership there for taking this and really driving that forward and being responsive to the needs that we have within Meaningful Use. They are working on developing a clinical information model, and I think that's something that we have to engage some folks like Stan and others into, and that right now within the transitions of care we are at a pilot phase and we really need people to help us with those particular pilots.

The LRI group has come up with a constrained profile now to report on the ambulatory primary guide and they are now working on their implementation guide. And again, thanks to everyone in the community who has participated there.

Provider directory has gotten some consensus on their use case regarding certificate discovery for direct project taking the recommendations of this Committee and the Policy Committee to heart. They are working on the electronic address discovery piece, and the next step is going to be working on the data models that will correspond to microdata, LDAP, HPD, and the other things. So again, really following through with the recommendations of this particular Committee in trying to drive forward. It's really important to recognize that this group is dedicated to a duocracy, and the way that they are going to be able to contribute to this conversation is not to talk about things but to actually do things, and that's really, I think, where they're going and that's really tremendous.

Certificate interoperability that particular group is looking at the Federal PKI policy and realizing that organizational certificates is not currently part of that, and they are exploring with GSA and others to see what it would take to update this Federal PKI policy to adopt to that organizational certificate and then see how that would work with regard to federal bridge and the like. So they're continuing to work addressing some of the issues that they found with the recommendations and should report back, but it's going to take a little bit of time to work through some of those policy issues as well.

The query health and data segmentation initiatives and some of the other projects that are in process are in what we call prediscovery phase where they're really just taking a look at charters, seeing who are the important people to invite, doing some work at sort of seeing what the environment looks like. Some of you may have been asked to talk to Richard Elmore and some of the others that are leading that just because trying to get a sense for what's going on.

So there's a whole host of things. We're not going to report on all of those things today. We'll do a deep dive in some of the activities that have gone a little bit further. But I just want to thank all of the folks that are working on the S&I initiatives, as well as within our workgroups, because without you folks Summer Camp wouldn't exist, and I think it's just been tremendous the amount of dedication and the amount of work that has gone on. And so I just wanted to provide that broad overview, and then we can do a deep dive in some of the real great work that's gone one.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Great. And just a brief comment, Doug. If the Committee would like to understand every project that's going on in the S&I Framework, because it seems as you have created a framework where there are capacities for internal projects, external projects, groups coming together, and we want to see what's going on, is it the wiki, what's the best place for us to look?

Doug Fridsma – ONC – Director, Office of Standards & Interoperability

I think all of the work that we're doing is out there, and so the S&I Framework wiki is probably the best place for a day-to-day. It can be a little bit overwhelming to sort of take a look through all of that. We certainly are open to suggestions. There are some summary activities that are part of the S&I Framework where they try to on a weekly or bi-weekly basis summarize what are the current things that are in flight and what people are working on. That's probably the place to start. But clearly if there are things that you're interested in the wiki is the place to go to sort of dive down and to get some of that information.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Great. And do everybody on the Committee do you know what query health is? Because you use that term, and you guys probably should know what it-- It is a project in investigation, as you say in the charter stage. And I refer you to a blog that Wes wrote that is basically sending questions to the data, because as we think of models we could aggregate all medical records identified or de-identified in a giant central database and query it or we could send the question to the data and aggregate the results. And you could image use cases where each is a good idea, and so this is the investigation. Just as direct was a project launched with a charter and many stakeholders I think of Query Health as a project that might be launched in similar form.

Doug Fridsma – ONC – Director, Office of Standards & Interoperability
And let me just put another; within the NWHIN specifications there's sort of this query response model that's there. There's this need to try to figure out how we can create more distributed ways of gathering information and doing quality assessment. There's a whole host of reasons why is would be helpful to keep the data in one place and send the question to it. And I think that's really what we're exploring; we want to make sure that as we think through the ways of exchanging information, monitoring quality, working towards a learning healthcare system that we don't let technology stand in the way, and we need to just sort of see what's the best practice out there. There are a lot of folks who are doing this, i2b2, other things, and we're trying to figure out what that landscape looks like.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Now a question for Judy as we begin Scott's presentation. Jim reminded me the last meeting that it is far better that we frame the question before we do a presentation and then ask for approval. So the question to be framed is that we have in front of us a draft set of recommendations, which is the prose representation of your PowerPoint presentation. And Judy, I believe that in today's meeting you are asking for Committee approval to forward this to ONC. Is that true?

Judy Sparrow – Office of the National Coordinator – Executive Director
Correct. Or any amendments to it.

Jonathan Perlin – Hospital Corporation of America – CMO & President
And so, as we've said in the past, this Committee sometimes offers input to the S&I process to Doug, and that's, Dixie, what you have done several times in the past, and sometimes offers to ONC a formal recommendation letter, which does kick off a process that you have to respond to. And so I guess the question for ONC or at large is this, as I understand it, is a formal recommendation that you then will have to respond to. Is that correct?

Judy Sparrow – Office of the National Coordinator – Executive Director
That's correct, yes.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Okay. So with that the question has been framed, and so Scott could take it away.

Scott Robertson – Kaiser Permanente – Principal Technology Consultant
Okay. Walter had his hand up one moment ago, I didn't know—

Walter Suarez – Kaiser Permanente – Director, Health IT Strategy
No I'm going to ask the question at the very end of the cycle, so go ahead.

Scott Robertson – Kaiser Permanente – Principal Technology Consultant
So thank you. Hi, I'm Scott Robertson with Kaiser Permanente, a member of the Discharge Medication Power Team reporting on behalf of the team.

So the Discharge Medication Power Team was charged with developing a use case for ePrescribing during the discharge process, identifying relevant standards and gaps, developing recommendations for ePrescribing of discharge of medications for the Committee's consideration, which is the letter that was pointed out was distributed.

Through the course of teleconferences and other communications we have a draft use case in circulation addressing concept, scope, and requirement. Preliminary identifications of standards are also addressed in the use case, and more specifically in the letter. I'll detail some aspects of those shortly.

In summary, the recommendations are to align the ePrescribing discharge medication requirements and development with existing regulatory requirements and initiatives, and to use standards that are in place and available primarily, and address gaps and additional capabilities as needed and as possible.

The use case, again, is the overall discharge of medication workflow in order to identify those elements, which are within scope for the application of HIT standards. ePrescribing and its related standards are well established outside of the discharge process, but discharging from the acute care environment involves coordination and other processes that go beyond the current ePrescribing standards. For example, medications from prior admission may need to be reordered at discharge, and formulary and benefits may differ between in-patient and ambulatory prescription benefits. The use case highlights these relevant additional requirements. Also many workflow actions are human based and not directly affected by technical standards. The intent of the use case has been to identify how existing and future technical standards can be applied to improve directly or indirectly the discharge of medication workflow.

Finally, the most notable difference variance of discharge of medications from typically prescribing is the difference between internal and external pharmacies, in this case external refers to retail, ambulatory, and other pharmacy-dispense entities, which are not integral to the discharge from facility. These external pharmacies are subject to typical ePrescribing requirements, including the use of NCPDP SCRIPT for transaction. While internal pharmacies, as a component of the discharge from facility, commonly use HL7 messaging for ePrescribing, so at present it is necessary to support both standards in their respective environments.

In addition to external pharmacies I described there are instances where other external entities may be involved. For example, discharge into a long-term care or post acute care facility that facility may need to augment the order with the facility's specific information. This is noted in the use case and is currently supported by NCPDP SCRIPT. The use case notes where additional functionality is needed in the ePrescribing process. These may be supported by existing standards to some degree, but additional capability would be beneficial and to the overall medication workflow.

Moving to the specifics of the recommendations. First, that standards are discharged ePrescribing should be aligned with the CMS standards and timeline for Medicare Part D. The use of NCPDP SCRIPT for external retail pharmacies and HL7 for internal hospital pharmacies is already a component of these standards. CMS also supports pharmacies that support long-term and post acute care facilities.

Standardizing medication vocabulary was inadvertently left off the slide. It is in the letter. The team recommends aligning with the recommendations accepted by the HIT Standards Committee from the Clinical Operations Workgroup Vocabulary Task Force for medication vocabulary in electronic prescribing. This also aligns with the recommendations to the Committee from NCPDP, and the recommended vocabulary standard is RxNorm.

Medication history for discharge ePrescribing should also be aligned with Meaningful Use and EHR certification standards. When writing a discharge medication order the prescriber needs to be aware of

medications the patient was taking prior to the acute care episode, and leveraging the Meaningful Use and EHR requirements is a logical reuse of prior development.

The team recommends aligning benefits and eligibility determination. Sorry. The team recommends aligning eligibility and discharge benefits determination during the discharge ePrescribing with existing HIPPA requirements, specifically X12 and 270/ 271 for the prescriber process, and NCPDP telecom for pharmacies. Again, this is to reuse requirements dictated by other regulation rather than dictating conflicting requirements.

And finally, for the time being that no formulary standard is recommended, while NCPDP has a standard that addresses formulary it is not yet widely implemented. This also acknowledges that the team sees requiring EHRs to retain formularies for all of the relevant drug benefit players to be overly burdensome to the systems.

And that's the end of my slides. If there are any questions?

Jonathan Perlin – Hospital Corporation of America – CMO & President
So let us open it up for discussion. As we said, the goals were take a look at what exists in regulation today, let's understand the workflows that are in practice today, and let's recognize that there are gaps, as in the formulary, but in this case there actually is not a good standard that subsumes all existent formulary types and variations, and seemingly no urgency to implement one.

So, Wes, is that a card from this round of discussion or the last round of discussion?

Wes Rishel – Gartner, Inc. – Vice President & Distinguished Analyst
No, no, I'm very good about putting my card down this time.

So just a general question, and then a couple of more specific ones. One of the things that we seem to be counting on in terms of understanding how all of this IT helps in patient care is the notion that there's a medication history primarily built through e-prescribing transactions or transactions between PBMs and effectively Surescripts but generically the prescribing network.

In all cases do discharge medications follow one of those routes and get into the patient's global medication history or if it's fulfilled by the hospital pharmacy does that fall under some category of processing where it's not included?

Jamie Ferguson – Kaiser Permanente – Executive Director HIT Strategy & Policy
Actually—this is Jamie and if I could jump in to respond to that question first—I think that's one of the reasons why we actually have a dual recommendation, which is, I think, the letter that was distributed to the committee has slightly more detail than was presented by Scott but that's why we recommend both allowing for the longitudinal medication history to be used from EHR systems as well as the actual record of what was e-prescribed and dispensed from pharmacies. Does that make sense as an answer?

Wes Rishel – Gartner, Inc. – Vice President & Distinguished Analyst
No, I'm sorry I don't understand who sends what to whom. In the case where if there's a commercial drug store on the hospital grounds or if I just take the prescription and take it somewhere, have it sent electronically somewhere then I understand how that gets into the long-term medication history, the cross enterprise medication history for the patient. I don't know who sends a medication history to whom otherwise.

Jonathan Perlin – Hospital Corporation of America – CMO & President
… referring to what Cris Ross, who can answer this question, but at a high level let me just describe the problem I have, which is the one you described. Today we have a number of payers in Massachusetts that use the Surescripts network and some that do not, and so when we think of what is the Surescripts/RX hub network it is a representation of the data of those medications that were dispensed at

retail pharmacies and those that were reimbursed by PBMs, and it is truly—I mean Surescripts/RX hub covers a lot of territory so it's of great value to the doctors for me to pull a medication history from that network but I also pull histories from other networks that are not Surescripts, and therefore the payers who have PBMs that do not participate in Surescripts give me a separate feed. Oh, but wait there are in-hospital pharmacies that are closed and unique to their particular ecosystem that will also have data, so the reality is we've created a mechanism by which we can pull multiple data sources to present to the clinician what we believe is the best collection of dispensed or reimbursed medications. It is not typically the case that a hospital pharmacy would send its data off to Surescripts or someone else unless there was a payer who got involved to reimburse what was dispensed from that hospital pharmacy. Chris, you're the expert. You live this every day.

Cris Ross – SureScripts
Well, I'll do my best and, Kevin Hutchinson can add to this but I think I've got maybe some recent data around how the product sets or works so I would agree with and amplify everything that you just said, Jon, the only … maybe a little bit of typology and zoology around it. One of the primary sources is going to be scripts that are paid for by a PBM, and the scope of the e-prescribing network has now moved beyond commercial PBMs to include Part D and Medicaid, for example, so that universe is actually getting relatively complete with in terms of your ability to get to a script that was paid for by a payer, and Jon's exceptions not withstanding that's probably one of the more complete testaments.

The second is scripts that are filled by pharmacies that are not paid for with a benefit, the famous sort of low-cost generic drug offerings that have come up from Wal-Mart and from others over the last couple of years. There's a substantial amount of meds that are filled that are not paid for by a PBM and the e-prescribing network has access to much of that data but not as complete as in the PBM world, and part of that is that an awful lot of scripts are filled in community pharmacies that don't have the robust infrastructure to do that kind of reporting and the kind of federated …, and then layered on top of that, of course, is this set of medications that would be issued by a hospital pharmacy or a 340(b) or some other kind of entity that wouldn't necessarily today go through an e-prescribing network and be available.

All of that data, the PBM and pharmacy data is available at the e-prescribing event to the physician as part of the e-prescribing benefit. In addition, Surescripts sells medication data to acute settings sent to HIEs for med reconciliation purposes on sort of a prescription basis. I would anticipate that if this were to be implemented the task would have to be to join those data sets anyway, and based on the recommendations made here those joints are going to be pretty straightforward. The exception will be formulary where a formulary standard doesn't exist, and the industry simply needs to move that forward at due course and there's pressure and so on around that. I guess, and Kevin can give a different view and everybody else on the task force can amplify this or correct me, but this clearly makes this task easier in a world that's kind of combined today but not fully combined. This definitely doesn't make it harder. It does not solve the problem of creating a universal inner repository. I would say that if this were to happen that you would probably see an effort to try to include these data sets in larger repositories of medication data as well. I think the last thing I would say is there's med data that's also kept within the EHR environment that is not acquired from Surescripts or anyone else but simply part of the script that was issued as part of care overtime in an ambulatory setting for a patient or an acute setting, and that data is really orthogonal to what's in the payer databases and pharmacy data bases. Hope that's helpful.

Wes Rishel – Gartner, Inc. – Vice President & Distinguished Analyst
Can I … so one thing I heard that was encouraging, is surprising, was that there is enough information in these transactions that you can weed out the same transaction getting view from multiple sources. The second thing I didn't hear addressed was what the economic incentive was for non-PBM paid or not electronically prescribed data that was sent to anybody on the basis that people do more inner operability because they get paid more than they do out of the goodness of their hearts. The specific comments I had were we just got this piece of paper a few minutes ago and I glanced through it, and I see some pretty specific recommendations on NCPDP script. I don't see the similar level of specificity for HL7 messaging. I think there are also the CCD and therefore a difference use case. I'm not just clear on whether the CCD always must be coded or whether we are requiring it to be coded in this case or what the situation is there.

Jamie Ferguson – Kaiser Permanente – Executive Director HIT Strategy & Policy
This is Jamie, again, if I could just jump in to respond to a couple of those particular points. I think the language that we've used in the recommendation letter basically is lifted directly from the other regulations, and so in general what we're saying is aligned with the other uses of the same standards in the other regulations and don't require anything different for this use case. So the lack of specificity in HL7 messaging for a hospital e-prescribing is exactly what's in the Medicare regulation, and so the ability but not the requirement to code also is, I think, in the use of CCD with the medication history for the patient's summary information so I think that would be the same here unless the committee wants to require something different.

Wes Rishel – Gartner, Inc. – Vice President & Distinguished Analyst
I'm just confused. I guess I should have paid more attention to the charter statement but are we here creating a recommendation that could lead to certification requirements for the EHRs? If so, how can we do the things that we chastise everyone else for doing, which is to say, "Here's a vague recommendation, figure out how to certify it."

Jamie Ferguson – Kaiser Permanente – Executive Director HIT Strategy & Policy
It's a fair point. I would say that medication history today is delivered through an HL7 ADT transaction, right, so it's relatively well known even though it's not a meaningful use certified event today. Those who want to implement it can implement it in pretty straightforward fashion. In some ways, NCPDP is very much a container and a transport method for moving a script from the place of prescribing to the place it's going to be filled, and so that's suitable even internal within a pharmacy operation within a hospital for purposes of then getting the data to be used for med reconciliation purposes HL7 along with CCD, CCR work perfectly well.

Wes Rishel – Gartner, Inc. – Vice President & Distinguished Analyst
I'm just asking the simply question are you going to certify it? Is anybody going to certify it? Is ONC going to require in the certification regulation? If so, this is not specific enough to certify. It may be that there's a practice out there that is specific enough to certify it but it's not described in this letter.

M
…Jaimie, if you look through the letter you have been quite specific on all the NCPDP transaction and as specific as regulation exists on CDA and CCR but the HL7 has actually no versioning at all, I mean 231, 251. I mean one wonders as a friendly amendment is there a way of providing a suggested list of version numbers that would be appropriate?

Jamie Ferguson – Kaiser Permanente – Executive Director HIT Strategy & Policy
Yes. I mean we can certainly take that back essentially as an additional work item for the team. We'd be happy to look at that. I think that our general sense was that we didn't want to conflict with the other existing regulations for e-prescribing, which being specific about an implementation guide for a particular message. I just think we have to look at that question of whether that would conflict with the existing guidance from Medicare Part D.

Kevin Hutchinson – Prematics, Inc. – CEO
Jon, I have my hand up when you have time. This is Kevin.

Marc Overhage – Regenstrief – Director
Mark Overhage, also please.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Okay. Well, we're getting quite a stack. Let us just follow up on that question. We recognize we should be as specific as we can and it is certainly from a certification perspective better to provide as few versions and little variability and optionality as possible but do we, from a regulatory standpoint, create a worse problem by providing specificity where none exists in Part D and therefore there is a conflict between the two regulations? This is an interesting question. Jaime, maybe the to-do item would be certainly I would

think that providing a list of version numbers that would be helpful for a specific purpose would give good guidance to implementers and from an ONC perspective comments on dueling regulations would be helpful.

Jamie Ferguson – Kaiser Permanente – Executive Director HIT Strategy & Policy
Great, so we'd be happy to take that back.

Jonathan Perlin – Hospital Corporation of America – CMO & President
So we had Nancy Orvis next.

Clem McDonald – Regenstrief – Director & Research Scientist
Can I get on the list? This is Clem.

Nancy Orvis – U.S. Department of Defense (Health Affairs) – Chief
… Scott, just a quick question. I was just trying to get a point of clarification on the use case so that if you are saying that if a physician is writing discharge medication orders and it's going to any other pharmacy than the hospital pharmacy, where say that physician is practicing at the time, it will be a script? Yes, okay but there are still—if he's writing it internally in some hospital center it can go either way? Is it—?

Scott Robertson – Kaiser Permanente – Principal Technology Consultant
The regulations currently allow that within an attached entity between the pharmacy and the facility that HL7 is permitted. It's not required but it's permitted as I understand it.

Nancy Orvis – U.S. Department of Defense (Health Affairs) – Chief
Okay, so is there a stronger recommendation that it should just be NCPDP or—

Scott Robertson – Kaiser Permanente – Principal Technology Consultant
Well, in a way that goes back to a discussion I heard earlier about if it's within an organization do we need to dictate how things happen within that organization and so—

Nancy Orvis – U.S. Department of Defense (Health Affairs) – Chief
Okay and basically you might say that the use case is saying that if it's in your own entity you can continue doing it however you do it electronically?

Scott Robertson – Kaiser Permanente – Principal Technology Consultant
Essentially, yes.

Nancy Orvis – U.S. Department of Defense (Health Affairs) – Chief
Okay, great.

Scott Robertson – Kaiser Permanente – Principal Technology Consultant
There was basically the intent of the original regulation to recognize that within healthcare organizations it's much more common to have—there's a lot that's already been established within healthcare organizations and dictating to change how you do internal processes doesn't seem to be a very effective thing to do.

Nancy Orvis – U.S. Department of Defense (Health Affairs) – Chief
But what you just said is if you are with an organization that may be adding or subtracting entities very frequently that's a really good point to say, "How do you deny that prudently?" so that you can have that flexibility.

Scott Robertson – Kaiser Permanente – Principal Technology Consultant
Kaiser's case is a typical case in that regard because we need to support both our internal pharmacies, our internal in-patient pharmacies, our internal ambulatory pharmacies and external pharmacies both network and non-network that we potentially may do business with or that our members may say they want to go to a specific pharmacy that's not necessarily part of our network. So, yes in the long-term the

requirement that ambulatory pharmacies are provided the e-prescribing in script sort of dictates a long-term direction of poor development, at least in my interpretation and considerations that we've had within Kaiser.

Nancy Orvis – U.S. Department of Defense (Health Affairs) – Chief
I guess it may or may not cover those of us who have pharmacies in other parts of the world that are still part of U.S. entities, which will be an interesting case.

Scott Robertson – Kaiser Permanente – Principal Technology Consultant
Interestingly, NCPDP has … quite a few counties as to how they might be able to utilize. Now, whether that goes very far—

Nancy Orvis – U.S. Department of Defense (Health Affairs) – Chief
That's in Europe or Japan?

Scott Robertson – Kaiser Permanente – Principal Technology Consultant
Yes and then within Europe HL7 is very well entrenched so there may be issues along those lines.

M
Two items; one, just to follow up on that NCPDP as you know, Scott, is approaching JIC, the joint initiative counsel, for potential international standards harmonization, so that does address that. My other point is a bit of a … and that is the question of research use cases particularly in a population context associated with the aggregated repositories that we're dealing with and specifically the consenting issue. We all know that for comparative effectiveness research frankly adverse event discovery, pharmacogenomics, transactional research, the usual laundry list of research use cases, for population based use the aggregated data that is coming from the mechanisms that we've characterized has no meaningful way of being implemented for research simply because there is no consent status and there's no metadata associated with that information. The finesse, of course, is to put it into an electronic medical record and then consent the electronic medical record but there are states, Minnesota being one, that object to that mechanism because they consider it a secondary use of information that was not primarily collected in the electronic medical record. Clearly, I don't expect a resolution to this question this morning but I am raising the flag that the issues of appropriate metadata and perhaps beginning contemplation of how this might be consented for population based research is something we can consider.

M
… what we've done is use NCPDP and a Surescripts network and other payers to provide this data for reconciliation and then the electronic health record becomes the repository for the lifetime accurate medication list, which is then sent via CCD to a registry where on a population bases it is used for treatment, payment, operations, quality and research analysis and there is consent to achieve for that transmission to the registry from the EHR.

M
… won't allow that.

M
Well, change that. Hey, come on we've got things going on in Vermont and New Hampshire all kinds of interesting stuff.

Jim Walker – Geisinger Health Systems – Chief Health Information Officer
My question goes back to the use case where a discharge medication is cancelled before discharge, and the question is I think 10.6 will carry that cancellation message electronically to the pharmacy is it out of the scope of this discussion to ask whether pharmacies will be required to be capable of receiving it?

Scott Robertson – Kaiser Permanente – Principal Technology Consultant
Jaime should probably speak to the scope of the—

Jamie Ferguson – Kaiser Permanente – Executive Director HIT Strategy & Policy
I mean I think the question that we were asked by ONC was around the implementation of standards in certified EHR technology and not really about pharmacies per say, so I think that was—I'd kicked that then back to Doug perhaps.

Doug Fridsma – ONC – Director, Office of Standards & Interoperability
So ONC is aware that we will predictably kill people if it becomes a requirement that we send discharge medications electronically without there being a fault tolerant way for pharmacies to know that a drug was cancelled and some other drug may well have been prescribed before discharge.

M
I'm curious, Cris Ross, any comment from Surescripts?

Cris Ross – SureScripts
Pharmacies should clearly understand the value of 10.6 and there's a regular march in that direction to get 10.6 implemented. I wish I had it at my fingertips right now. I'll offer as an addendum to circulate to this group what the progress report looks like for 10.6 but it is clearly on the roadmap for all pharmacies. It's somewhat easier for the chain operations to implement it than the community pharmacies, and typically one of the jobs that Surescripts has is to try to create backward compatibility between those standards and so on so that for prescribers doing 10.6, and a pharmacy can only deal with A3, that there's compatibility between those two but there is regular progress being made towards 10.6.

M
So just as a timing issue if we're going to require transmission of discharge medications it would not be an unanticipated adverse effect if patients got hurt if we did that before all pharmacies were on 10.6 or some equivalent thing.

Doug Fridsma – ONC – Director, Office of Standards & Interoperability
Sure but an e-prescribing system capable of delivering a 10.6 script, delivering it to a pharmacy that has not yet implemented the script the script can be filled it's just that the cancelled function is not available within that—

M
But that's the point then the patient gets the cancelled med and the new replacement med and—

M
… workflow today if I don't send the drugs to the pharmacy electronically but hand the patient paper as they walk out the door if I've revised the paper seven times along the discharge process no harm is done except for the fact that my scripts can't be read by anyone.

M
The nurse grabs it and tears it up and throws it away and the patient doesn't get harmed so we just have to get that timing right or we will create a mess. A smaller question, do we want to say 10.6 or later or do we really want to say 10.6 period in the transmittal letter?

Jamie Ferguson – Kaiser Permanente – Executive Director HIT Strategy & Policy
Again, what we've done is we've sited the applicable existing regulations so I think that does not, at this point, go beyond 10.6.

Cris Ross – SureScripts
And NCPDP has long asked for it to say 10.6 or later and what we understand from NCPDP is that doesn't fly through the regulatory process. If I could take a quick step back onto the discharge timing part of that was considered a little bit outside of what we can do with the use case and the requirements because it has to do with workflow. Ideally, the orders shouldn't be sent to the pharmacy until they have been finalized but there are a lot of people involved in the discharge process and it can happen in various points in time. On the other hand, not all pharmacies take that script message and immediately fill it.

Some of them, especially if they know it's a discharge, will hold it until somebody actually comes to request it. Those kind of things are workarounds for what you're asking for and the cancellation would be a much more efficient way and along with that the other associated messages that allow the pharmacy to communicate that request for changes.

M
One way on this because that obviously to me puts the deal designed specification, and then you've introduced it with the language that is charged and obviously I want to make sure that the understanding is that then … is no patient harmed. One looks at a current workflow in the alternative sometimes it's a written script, which if Jon is like mine may or may not be highly legible but the alternative is that there are a bunch of phone calls to a pharmacy. I can't even contemplate a situation even in a hospital where a situation occurs, there is a change in requirements so just for the sake of argument let's say the patient was profoundly hypokalemic, I get a low potassium and the value comes back as high and you want to stop that and even with that electronic flow where it can be immediately stopped there will always be a role for human interaction of saying, "Wait a minute. I know that electronic order went to the pharmacy, it was dispensed, it was transported." This may take a human interaction to stop and so want to make sure that we don't—because I appreciate your point. The emphasis of safety is a first imperative.

M
But my point is deeper. The point is that the system now everybody has it burned in their brain so much so that they wouldn't even bring it to consciousness that the nurse is going to—and by the way you guys are using a straw man but what the patient is going to get is a set of printed prescriptions that the only thing that's illegible is my signature but everybody has it burned in their brain that the nurse as one of the things that they would die before they didn't do is going to check that against the final care plan, tear up and throw away the ones that have become dead, and so what you're doing is disintermediating the critical safety human in a process and automating it and everybody knows that when you automate systems you create the potential for rapid catastrophic invisible failure, and so this isn't just sort of well there would be some downside to it. What we would be doing is taking a system that for all its failings does have this explicit safety step. You're taking that explicit safety step out and so the automation had better be at least close to flawless. It won't be that but certainly not with this giant hole in it that we know is there as we implement it.

M
Okay so what I'm hearing is not to say stop automation but be sure that you build in this set of necessary incumbent safety steps so that it can perceive effectively. I just want to tease apart this very important point.

Kevin Hutchinson – Prematics, Inc. – CEO
This is Kevin; my card is still up when you get a chance.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Right, so we have Kevin and Marc Overhage. Go ahead, Kevin.

Clem McDonald – Regenstrief – Director & Research Scientist
Put Clem on there to please.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Tom—Go ahead, Kevin.

Kevin Hutchinson – Prematics, Inc. – CEO
I was going to make the comment earlier about—and when we're hitting a lot of these points I think the charge of this group was really to focus on the standards by which information will be exchanged. There are definitely three areas that need addressing but I'm not sure it's within the scope of standards discussion as much as it's in the scope of workflow discussion, and workflow is one of those items. We were talking about one particular scenario in a hospital where you are potentially bypassing a control point. Of course you can design your software by such that you don't bypass that control point prior to

those orders being released to the pharmacy using those standards or transactions. There's another workflow issue associated with once released to the pharmacy issues that arise when the patient goes to the follow up physician after discharge who wants to change their medications a couple of weeks after discharge and route it back to the pharmacy of which those prescriptions cannot be dispensed because the PDM won't pay twice for medications in the same month. The point of all of that is there are definitely workflow issues that have to be addressed when dealing with discharge medications both from a medication history information to have accurate information as well as from a transaction basis for the ordering but I'm not sure that was the charge of this group with respect to the standards work. I'm also not downplaying the significance and the importance that that work needs to be done somewhere whether it's within this group or within the policy group.

The other element item is privacy. In many states there may be discharge medications that are considered to be sensitive meds that are not able to be shared without patient consent, and that was not addressed either nor was the commission of the group to deal with it but it is something in certain states that has to be dealt with. You have workflow issues, you have privacy issues and I think John Halamka also brought up the access issues. Not all information is going to be 100% accurate when you're pulling medication history information from very different sources, some who do not participate at all in delivery of that information today. So workflow, privacy and access are still three primary areas that still need to be addressed when looking at this from a safety perspective.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Well said, so Mark Overhage?

Marc Overhage – Regenstrief – Director
Thank you and so hopefully this is in the category that John Halamka talked about of non-controversial issues and I just need to be educated. The letter specifically recommends the SCD codes or the RxNorm Symantec clinical drug as the way to name the drug, and I have some concerns because that is the pre-coordinated drug. It is the ingredient plus the strength, plus the dose form, and I believe that pre-coordination has tremendous potential both for patient safety because of inconsistencies that can creep in between the strength and the dose that is specified in the sig, and also it implies that we're going to ask the clinician who is ordering the drug in all cases to specify the drug at that level of detail.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Jaime, could you comment on when you're looking at page three of your letter the vocabulary for prescription medication says RxNorm plus SCD plus SBD plus GPCK plus BPCK?

Jamie Ferguson – Kaiser Permanente – Executive Director HIT Strategy & Policy
Right. Well, those are the four elements of RxNorm that were previously recommended by NCPDP and by NLM so that was part of the previous set of recommendations from the vocabulary task force on medication vocabularies for Stage II and Stage III that were accepted by the committee. We were just reiterating those here to say, yes, also for discharge orders.

Clem McDonald – Regenstrief – Director & Research Scientist
And if I might, it also pertains to the degree of specificity that the pharmacy needs to get to know what product to use so the coordination with the strength of the product is necessary in most cases.

Marc Overhage – Regenstrief – Director
I disagree completely with that statement and I would like you to explain that because it is not necessary for the provider to specify it for the pharmacist to choose it.

M
Well, clearly the pharmacy sometimes changes it anyway.

M
If they don't have the right dose sizes they'll reconfigure it.

Clem McDonald – Regenstrief – Director & Research Scientist
Yes, but the intent of the prescriber needs to get through to the pharmacy. If the prescriber is asking for a product to give one tablet that's one thing and as a pharmacist I would need to know what that strength is. If the prescriber wants to only say give 25 mg of product X and leaves that to the pharmacist to determine that—I'm trying to think I'm not sure if it was convention or requirement that was not considered a proper prescription when I went to pharmacy school.

Marc Overhage – Regenstrief – Director
The option for people to do that and the potential for inconsistency because what you do see as Clem suggested is the provider thinks they have picked the strength, 4 mg, the pharmacist for a whole variety of good reasons formulary options, availability, whatever gives them an 8 mg tablet, the patient ends up taking double the dose. So we've found over the years it's always far better to say here's the dose that you're to receive and then it's like age and date of birth in a clinical trial report. You don't do both because you're going to get inconsistencies and conflicts and so I'm not sure what we do with this but I really find this an objectionable recommendation for that reason.

Jonathan Perlin – Hospital Corporation of America – CMO & President
So, Jaime, any comments because I know you were just trying to leverage pre-existent recommendations is there a compromise here?

Jamie Ferguson – Kaiser Permanente – Executive Director HIT Strategy & Policy
I'm sorry what was that Marc?

Marc Overhage – Regenstrief – Director
I think we have to go fix those.

Clem McDonald – Regenstrief – Director & Research Scientist
Well, could I just interject it's neither a compromise nor a real solution but a possibility so we at … I think had decided that we would release RxTerms along with RxNorm although it's really sort of a subset except there is a breakout of everything in the clinical drug except for the strength part in it. Anyway there's a possibility but it might be hard to backfill it into all the agreements that people already made.

M
I'm trying to recall in a little more detail this has been discussed extensively in a variety of venues including when NCPDP started considering support of RxNorm within the standard, and to some extent it comes down to whether you're talking about a—if somebody is writing a prescription and they have free form access to everything then yes the specification of the actual tablet form strength may not be relevant but when you're working in a system and you're selecting products, and products have to have associated strengths, then it typically becomes incomplete if you don't know what product, dose, strength you're working with. So the situation that you were talking about, ordering 4 mg but an 8 mg tablet is used, that 4 mg tablet if you order that 4 mg and it's not really available the system would force you to say, "Take half a tablet."

Marc Overhage – Regenstrief – Director
And not available is a relative term of course. It may be on the formulary and then as you know the formulary—

M
You're intent would be very clear then because if you said four mg and for some reason only the eight mg is available in this particular scenario then you would be forced to specify half a tablet in that case.

Marc Overhage – Regenstrief – Director
Or to just simply say what the dose is that you want the patient to receive. I think part of the issue here is for one the formularies are not comprehensive as you know. The formularies are representative; therefore, you do not know because it is not on the formulary that is not available if people believe that they are sadly mistaken. Number two, what we are saying here by making this recommendation is we're

insisting that every provider every time they write a prescription take the time to choose a specific product, not the drug that they want the patient to receive but a specific product, which also flies in the face of trying to push towards generic prescribing where appropriate because it drives you to picking a specific product instead of leaving the options available for those alternatives that may be out there that are not necessarily represented in the formulary and not necessarily available to the provider. I just want to be clear of the burden that we are putting on the provider and the patient's safety possibilities that we're putting on the table.

Jamie Ferguson – Kaiser Permanente – Executive Director HIT Strategy & Policy
I just wanted to speak to one part of that Marc, which is that the recommendations do include the generic drug name and package as well as the branded.

Marc Overhage – Regenstrief – Director
So does that mean just so I'm clear—I appreciate that—does that mean that a discharge prescription in which the NCPDP field for drug name is populated with the—and I have to go back so you're suggesting the—

Jamie Ferguson – Kaiser Permanente – Executive Director HIT Strategy & Policy
If it was stated as a Symantec branded drug then the prescriber is indicating that a brand is desired or that they're talking about a brand and that is their intent. If they … clinical drug its generic.

Marc Overhage – Regenstrief – Director
Right, so I do not understand, Jamie, where the option is there because the SPD and SCD both contain the strength.

Jamie Ferguson – Kaiser Permanente – Executive Director HIT Strategy & Policy
It has to do with whether they are a specific branded product Medrol verses …

Marc Overhage – Regenstrief – Director
Understood.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Jaime, let me just ask a question because obviously we would to the extent that we can bring closure to this letter like to do so, is it going to remove a controversy if we simply state the vocabulary of prescription medications and e-prescribing communications would be RxNorm and version it and not lift those four subcomponents of it?

Jamie Ferguson – Kaiser Permanente – Executive Director HIT Strategy & Policy
Well, I think that's fine for this letter but I just wanted to remind everybody that was an already excepted recommendation for other parts, and I think Marc is raising certainly an issue that some EMR systems have with the recommendation and maybe we need to go back and look at it from that perspective. We can certainly do what you are suggesting for this letter in order to move on but that's probably something for the vocabulary task force to take back because as I think Scott said that really was a sort of a widely vetted recommendation in a number of different venues.

Clem McDonald – Regenstrief – Director & Research Scientist
… something could be fixed through MLM with modest effort and … time if there was encouragement.

Jonathan Perlin – Hospital Corporation of America – CMO & President
And John Klimek I think you—it was John not Tom right? There was another comment on the phone.

Clem McDonald – Regenstrief – Director & Research Scientist
I was on the list for a different thing.

Jonathan Perlin – Hospital Corporation of America – CMO & President

Oh, okay so that's Clem? Yes, please. So does it make sense then in the interest of moving this forward to forward this letter simply after the colon strike the remaining four items and give it back to your task force to work on for the general review of previous recommendations and bring those forward as a separate item?

Jamie Ferguson – Kaiser Permanente – Executive Director HIT Strategy & Policy
Absolutely and I think that some suggestion about bringing forward more specific recommendation on RX terms could potentially solve this.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Okay, great, thanks. Clem?

Clem McDonald – Regenstrief – Director & Research Scientist

My comment was regarding the business about getting drugs out of RX hub on … because we just finished this study at a local hospital, and it's really quite impressive what it gives you when there's any drugs in the hit but about 35% of the ER patients who really have drugs don't have drugs in that hit, and it looked to us but we really don't have really good data and it's part of it that an awful lot of the non-hits it isn't the hospital discharge it's all the different government systems that are not delivering or don't provide it, so the TRICARE, Medicaid, VA, the Army, DoD, just direct prescribing. So I would like to encourage the thought to encourage the folks in the governmental side of this to either play with Surescripts or build a parallel system in the same fashion and people could poke at both, and then the other big player that is certainly in the Washington area is Kaiser who's insurance plan doesn't participate but, again, maybe we need a separate—I'm not trying to encourage one network but this could be really slick, especially for ERs where we tested it, if you could really get most of the drugs most of the time, so just a pitch.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Thank you. Jim?

Jim Walker – Geisinger Health Systems – Chief Health Information Officer
Just two quick notes, the question about prescribing and whether it's NCPDP/SCD I think is fundamentally a question of cognitive work analysis that physicians and others who prescribe see their contributions to medication management differently than pharmacists may see it, and I think at some point somewhere along this that we'll get a lot farther faster better safety, better efficiency, if we really work that out and specify what part of the medication management activity is supposed to be done in prescribing and what is done in filling that prescription. I think that's fundamentally the discussion we're having, and I think we would find that if we pooled them that 99% of physicians would agree entirely with Marc and so this is not a trivial issue and it's not an issue of EMRs fundamentally. Second, I understood what I raised was probably out of scope and obviously it had no reflection on the excellent work that the committee has done. Thank you.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Now, Chris … is up, any final comments?

Chris
Just to say that I strongly endorse Marc's view and indeed good informatics principals would mitigate or argue against pre-coordinating a drug and dose in a single field. I would add that this was mentioned during the vocabulary task force discussions and indeed I proposed that RX terms be adopted and I'm thrilled to see that it's potentially back on the table.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Okay so ...

M
So just two quick comments, one is—well maybe three based on David's sidebar. Number one, I think some of the issue around dose and so on is from a practical perspective really managed by the drug

database companies, right, who deal with the issue of taking the RxNorm forms and representing it in typically created form of drug. They're doing that crosswalk in any case. The second in terms of requirement for 10.6, I think that's embedded in the roadmap for meeting … that makes sense. I want to make sure—I don't want anybody to have the impression that the laggard here is going to be at the pharmacies are going to be behind the pace of the EHR vendors. From our perspective those two are proceeding at about the same pace. There is always an issue of backwards compatibility and has been as the NCPDP scripts have been moved along. So I really don't want anybody to have that impression that's the holdup. The third thing I'd say is, I actually think Jim you're comments are really good but it's really the issue of we've got both HL7 and NCPDP in here and not to recap the conversation but Scott's point about HL7 is a pragmatic alternative for intra-prescribing events is true but it's also a case, it seems to me, that the discharge event, which is going to be mediated mostly by an HL7 type of transaction raises the issues that you're raising. That this issue about cancelling a drug is really not fundamentally an NCPDP version … It's about coordinating two clinical events, a discharge event and the prescribing event, which may be embedded. So I think my suggestion would be that when the S&I group comes back on transitions of care and specifically talks about discharge we may want to match up this recommendation to the discharge recommendation, and that's what I was asking Doug about so now I've made his life even harder. So mission accomplished as far as I'm concerned.

Jonathan Perlin – Hospital Corporation of America – CMO & President
So let me ask that of the committee if we take the letter as written with the two friendly amendments that there will be an attempt to specify HL7 version numbers for a specific purpose and that with regard to vocabulary RxNorm will be stated as a general item of guidance. Is there any objection to moving forward with the letter? Okay, so forwarded, Judy. Thank you so much.

Well, let us—since I know we were going to have a non-controversial and abbreviated meeting let us move onto the ever non-controversial Marc Overhage to talk about Patient Matching Power Team, and, Marc, let me just introduce your comments as being particularly non-controversial because I have had emails during the course of this meeting with the policy committee who said, "Of course it's entirely reasonable for you to provide guidance of best practices," and they did not imply in any way that touch guidance would be frowned upon, so have at it.

Marc Overhage – Regenstrief – Director
Great, thank you and thanks for the staff for sort of accommodating the just-in-time nature of getting this work to them and thanks to the committee including those who are in the room and on the phone for helping drive this work forward. Basically, I'm going to walk you fairly briefly through a deck that looks a whole lot like what you saw last month. I don't see it yet on my screen here but I presume its coming, Judy, but the first is a couple of principals that we thought we arrived at and one is that for our focus on direct patient care use case where we need some guidance and input from the policy committee that it seems important that the specificity be more critical than the sensitivity. There are a couple of other principals but the other key one, I think, is that we don't want to preclude innovation and growth as other potential identifiers for patients of all other metadata as we've been talking about evolves. We certainly don't want to preclude those.

If we go into the slide—and Judy are they able to see those slides now or?

Judy Sparrow – Office of the National Coordinator – Executive Director
Yes, they're on the screen here.

Marc Overhage – Regenstrief – Director
Okay, great. To the patient matching fields slide, this is one of the things I wanted to highlight and we had a lot of discussions, as you might imagine, about what sort of core matching fields would be appropriate; name, date of birth, administrative gender, fairly straightforward, zip code, useful under certain scenarios but at the end of the day—and I'll welcome when I finish running through things others on the work group to comment and expand on this—when trying to retrieve data that is more than a year or so old or you don't know if there may be data more than a year or so old the last encounter with the organization where that data comes from it turns out that the literature at least would suggest that you need other more stable

matching fields like social security number to be able to retrieve that data. Then, we list a variety of other optional attributes. Things that certainly may turn out to be very helpful like cell phone number or future cyber identities that might be voluntary, for example, that will help. I should note to that under name the value including the full middle name rather than the initial is being explored but I don't think there's enough data yet to justify its recommendation.

On the data quality front, a couple of key issues, I think, are that first of all the registration process needs to provide a consistent method to identify missing or unavailable data, approximate values or questionable values. In other words, rather than having the conventional solution I don't know the date of birth so I put in whatever the systems default zero date is or I put in January 1, 2000 or whatever it is that the convention in the organization is, so it's actually misinformation that's being entered, and so these have implications potentially for EMR vendors and registration system vendors over time.

The next item is an example of where the feedback from the committee from last month was very helpful in looking at recommendations of various groups and so on. Incorporating the notion that there should be methods to allow the patients to check the entries such as sharing the entry screen, printed summaries or online access in order to identify data quality issues, and then that there are some basic edits, if you will, that seem to make sense to apply in order to help improve the data quality and subsequently the matching.

On the next slide, data formats and content, consistent with previous recommendations that the committee has approved or discussed the CDA R2 header formats seem to be robust useful ways to represent these attributes for purposes of the query. So for example, dealing with the patient name, representation to accommodate multipart names and so on is quite robust and seems like a safe, if you will recommendation. We did not come to conclusion yet about recommendation or regarding whether the new hand patient query implementation guide or the IAG PDQ implementation guide represented better jumping off points for this so certainly that could be a point of discussion here today or offline later.

Lastly, we talked about what comes back from the match, if you will, and obviously there's a list of matched patients which might be empty. There may be data returned about those individuals but we may want to limit that to protect the patient's identify, such as just the last four of their social security number if that were included in the return. Still under discussion the idea at least that we would like to get to although haven't been able to formulate a crisp recommendation, a match confidence level, if you will, and then probably the broadest or loosest area of discussion we still have is data about the matching algorithm and process that might be useful to return. On the next slide there are some examples of the kinds of things that we've been thinking about such as would it be helpful to return to the requesting system information that said, okay this name that you asked me to match is incredibly common and it appears in 8% of all records in my database; therefore, that tells you something about the match specificity. Certainly, also, the notion that information to the extent it's available about the algorithm, for example, that's being used, recognizing that starting out that may be very primitive. It may be something as simple as the pointer to a Website that says how the matching is done.

And on the last slide, just for reference purposes Walter Suarez was kind enough to start sort of outlining a draft letter, which is what I'd hoped to bring to the committee next time for a non-controversial discussion like we just had about discharge prescribing. So that's the brief summary and I'd invite any of the workgroup members who'd like to amplify or clarify or correct me to chime in and then turn it back to you for comments.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Other workgroup members, comments? Okay, questions?

Carol Diamond – Markle Foundation – Managing Director Healthcare Program
This is Carol …

Jonathan Perlin – Hospital Corporation of America – CMO & President
Carol, go ahead.

Carol Diamond – Markle Foundation – Managing Director Healthcare Program
So, Marc, I'm a little confused about what you mean by core requirements can you just define that? Are you saying that those are things that everyone should be collecting?

Marc Overhage – Regenstrief – Director
In order to achieve a—for our patient care scenario, which we were focused on—a good trade off of sensitivity and specificity those are the fields that the literature would suggest you need.

Carol Diamond – Markle Foundation – Managing Director Healthcare Program
Okay but that's in the scenario you were trying to work out. How does that translate into a recommendation that you might make? I'm obviously concerned about suggesting that those are the fields that everyone should be using for matching. I'm also—and let me get this other question out before you answer that piece because it's a related one—I'm also concerned about returning any information the querior doesn't already have in order to adjudicate the match. In other words, if the querior doesn't know certain other fields of data then the system should not return those to them in the spirit of adjudicating which patient it is.

Marc Overhage – Regenstrief – Director
Understood, so let me take the last one first and that is why we had suggested—we certainly wanted to consider limiting if social security number, for example, were one of the fields sent rather than returning the full number. The key issue you get at—and I understand where you're coming from—is that when matching algorithms are not in general deterministic. In other words, you're not matching every field exactly there is going to be variation so the question is how do you trade off and balance, I think is the question you're asking, providing sufficient reassurance, confidence and information that the provider who's interpreting the data can use in a dialog with the patient to ensure that errors in matching are not being made and to help with dialogs with other providers. A classic example being if a name, perhaps a maiden name and a married name are involved and you call up a laboratory and you say, "I'm curious about this result on Mrs. Smith and the potassium is high as it hemolyzed," and they go, "We don't know any Mrs. Smith. The only thing we have in our system is Miss Jones." So you need for communication sometimes at least some of that information. So name, date of birth, social security number, and zip code seemed of public record. Other information like social security number that's why we suggested limiting to the last four as a compromise lag. I understand your question, where is that line and that's why we specifically addressed it. Does that help or do you think that there should be a stronger limitation? I understand the notion of don't return anything you didn't send so if I didn't send a social security number don't give me back a social security number. Certainly we discussed it that way.

Jonathan Perlin – Hospital Corporation of America – CMO & President
And so, Marc, to follow onto that and I'm getting input from people on the phone to, the concern about putting SSN as a core data element is that immigrants don't have them, state laws have often special regulations regarding their use, questions of identity theft, etcetera, and so one wonders in the spirit of trying to make recommendations as to what are best practices you wonder if as a friendly amendment you say here are a set of other identifiers that add sensitivity and specificity but requiring SSN on a core did seem overly specific given its concerns.

Marc Overhage – Regenstrief – Director
I understand the question and that's why I highlighted it as a key issue. The combination of data that are collected, data that is stable over time, which is very important, so phone number, for example, many people thought might be a good choice. The literature suggests it's quite unstable with, I believe, 15% of cell phone numbers turning over on an annual basis, if you believe the telemarketing literature anyway. The challenge is to find a what do you need and without that specific identifier, and I don't want to say this to strongly, and I don't know if Dave McCallie is on the phone or in the room but he's one of the folks which … There is not a set that will achieve a good match without that if in particular the data that you're trying to match is more than a year old.

Clem McDonald – Regenstrief – Director & Research Scientist

This is Clem, so maybe you could help on this a little bit. You're really not proposing the whole—you could propose the last four digits which is commonly used. Is that correct?

Marc Overhage – Regenstrief – Director
No, actually not.

Clem McDonald – Regenstrief – Director & Research Scientist
All right. I mean the hit rate—I mean in studies I was involved with you could loss as many as 30% of your hits without that additional discrimination. So there's not good hope about the last four digits? That would solve a lot of problems.

Marc Overhage – Regenstrief – Director
It is not, in large data sets, nearly as helpful as you might think. I mean that's what the literature—people have done these. You lose several percentage points.

Clem McDonald – Regenstrief – Director & Research Scientist
The RAND study looked pretty good. They looked at like 80 million I think and I think they used the last four digits.

Marc Overhage – Regenstrief – Director
I'd have to go back but I think they're one of the ones where they lost 5 to 6 percentage points.

Clem McDonald – Regenstrief – Director & Research Scientist
Well, you could handle the problem of it not being available to everybody by saying use it while its available.

M
In your drafting of this final letter, which is going to be next month—good news is we don't have to vote on it today—you can acknowledge where there is utility, where there are caveats, and so therefore it is buyer beware. Use this if you will. Use it when you have it.

Carol Diamond – Markle Foundation – Managing Director Healthcare Program
I just want to say I think in addition to the caveats I want to go back, Marc, because I don't think maybe my comment was as clear. When there is a question of adjudication I didn't hear you say that the intended policy is to minimize false positives, right, but you'd much rather have a false negative, which is to say, "I can't find this record and I'm not sure" then to return three and say, "I don't know it may be one of these three."

Marc Overhage – Regenstrief – Director
Absolutely, the way that this is represented today is what is returned would be matches.

Carol Diamond – Markle Foundation – Managing Director Healthcare Program
Right, so on that point where you talked about potentially returning the last four I would strongly argue that you don't need to return the last four. If the last four are useful and adjudicated it should be asked of the querior not returned to the querior. In other words, the person who is making the query should be providing the additional fields if there are additional fields that would heighten the assurance of the match not returned to the querior.

Marc Overhage – Regenstrief – Director
I understood the suggestion and we did on the issues about things to return that is one of the things we spent a fair amount of time talking about and social security number would be an example but of … that return—okay if you could also tell me the zip code I could disambiguate some matches and potentially make some matches but if you can't tell me that I can't help you.

Jonathan Perlin – Hospital Corporation of America – CMO & President

So I think you've got good guidance there. We have two more comments here and then we have three more presentations in 20 minutes. So, Ann, comments?

Anne Castro – Blue Cross Blue Shield South Carolina – Chief Design Architect
Just to reiterate one of Carol's points, I think, the matching is disallowed by HIPAA or a multiple list as a result set with any additional data then what was entered is a violation of HIPAA so I would strongly go away from that. Thanks.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Jim?

Jim Walker – Geisinger Health Systems – Chief Health Information Officer
Marc, address and the fact that it changes and the others but particularly address at least for the confirmatory phase where they said well, this isn't a very good match but it's the only one we found, is there a previous address? At least in the human encounter that ends up being extremely valuable because the patient says, "Oh yeah, we used to live in La Mesa" and you put that in and then it's very unlikely two people had the same two addresses and it seems to me that you could—at any rate it seems possible that you could use that as even core and just return it and say everything looks fine except it's not the right address and you would say to the patient, "Did you have a previous address?" put it in and then you really would have a certain identification.

Marc Overhage – Regenstrief – Director
So what we proposed, Jim, we would, again, discussion because systems aren't doing this today but the idea of coming back and saying if you could provide me some old address data there might be a match for you. The other thing and it's also the reason for accommodating other parameters so if somebody wanted to deliver two addresses as part of the query we wanted to be able to accommodate that for exactly the reason you described. I think it was stated yes in the way that you would handle it and what we've recommended is send the two addresses. If you only sent one the system ideally would come back and say provide me with some old address and maybe I can help you and then you would send two.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Marc, thanks. In the interest of giving the committee some background to look at your final report I will send to Judy Sparrow one page of the RAND report that publishes the nature of how demographic elements help or hurt with match.

Marc Overhage – Regenstrief – Director
And that's only one of many studies and we've looked at that along with a variety of other sources in this so yes.

Jonathan Perlin – Hospital Corporation of America – CMO & President
It nicely illustrates what you grapple with because as you say if SSN is dropped out you actually do loose pretty significant specificity and they'll see exactly how all demographic elements compare. Dixie?

Dixie Baker – Science Applications Intl. Corp. – CTO, Health & Life Sciences
I have one just quick suggestion, Marc, and that is that the maiden name be changed to other name because not only woman but men as well have alternate names.

Marc Overhage – Regenstrief – Director
Absolutely and that was not intended to be an exhaustive list but illustrative and that's a good example.

Dixie Baker – Science Applications Intl. Corp. – CTO, Health & Life Sciences
Thank you.

Jonathan Perlin – Hospital Corporation of America – CMO & President
David McCallie?

David McCallie – Cerner Corporation – Vice President of Medical Informatics
Yes, David McCallie, we focused on the semantics of a query where someone is trying to match a patient. I wonder: does our charge—I'm on this workgroup so I'm asking for advice—does it also include what should in fact be captured and remembered about a patient? I mean it's one thing to say don't return last four digits if the querior didn't submit them but are we suggesting that you should capture them if you are registration systems so that a future querior could in fact submit them?

Marc Overhage – Regenstrief – Director
I think the intent is to inform implementers of what are best practices and if it is in fact a best practice to match against a particular demographic element then the implementer should recognize they should be capturing such data.

David McCallie – Cerner Corporation – Vice President of Medical Informatics
My point is that we really are defining what should be captured because that's the only thing you could possibly query for.

Jonathan Perlin – Hospital Corporation of America – CMO & President
I think the spirit of this, which, again ONC will have to turn into some kind of regulatory verbiage, is that we are not going to require that everyone adopt a similar algorithm or capture similar data or use a single patient matching demographic set but that they understand the range of possibilities and make an educated decision based on guidance.

Okay, we are really, really, really behind so quick—

Wes Rishel – Gartner, Inc. – Vice President & Distinguished Analyst
So call on Wes, yes that helps. This discussion has been about active patient matching but there's an awful lot that's done or supposed could be done by passive patient matching, getting data together out of a database and things. We've just not taken a position on that is that right?

Marc Overhage – Regenstrief – Director
Can you explain? I'm not sure I understand what you mean, Wes.

Wes Rishel – Gartner, Inc. – Vice President & Distinguished Analyst
Using an automated process with no ability of a person to intervene to determine these two records belong to the same person.

Marc Overhage – Regenstrief – Director
So the recommendations that we've put together were primarily around machine-to-machine querying and one of the—and maybe you could help me here, David, may chime in—one of the key questions was and the sort of iteration question is what data would you give to the human that the machine didn't already appropriately incorporate into its algorithm to make the match. So what does the human know that the machine doesn't and if you're willing to tell the human that data why not tell the machine that data and have a reproducible consistent process?

Wes Rishel – Gartner, Inc. – Vice President & Distinguished Analyst
I'm not sure—this is going to be too complicated given the time. I'll pass on that….

Jonathan Perlin – Hospital Corporation of America – CMO & President
I'll say it this way because my belief of the scope of this work it is in fact looking at passive approaches primarily. That is to say it is not considered best practice—this is work … did some years ago—to say, "Oh, based on the five things you've given me here are 40 possible patients so you, human, now go in an active way and start asking additional questions and fish." No, it's based on an algorithm not necessarily an exact match. There could be other variations on exact match, probabilistic match, and etcetera but if you send this demographic data we feel like this is a best practice to give you possibly a single response. Like do you see that, Marc, as your charge? Its machine-to-machine it is not building a set of standards for an iterative interactive search.

Marc Overhage – Regenstrief – Director
Correct.

M
Not all of us agree with that. I mean I think there's some—those are different use cases and the human's ability to make subtle distinctions that you would not hard code for fear of the false positives should be accounted for. I mean if … care and you've got a human in the loop and the human could ask additional questions—

Wes Rishel – Gartner, Inc. – Vice President & Distinguished Analyst
No, absolutely. The question was really the use case you're working with right now and so absolutely that's a use case and that—

David McCallie – Cerner Corporation – Vice President of Medical Informatics
One of the problems we struggled with is that it's difficult to specify a threshold in any meaningful units. We can't say 95% accuracy or something like that and have it mean anything, the variations across systems and available information and so forth is just too high and we don't have the statistical basis to make those distinctions so you're stuck with judgment. It's not going to be something that you can put in a precise algorithm like interpretation of what's an abnormal lab test where you have full distribution of ranges of normal and you can calculate your two standard deviations and draw a line. We don't have that data usually. I struggle with the fact that it helps to have a human in the loop but—

Wes Rishel – Gartner, Inc. – Vice President & Distinguished Analyst
… systems and the person typically in the equation doesn't create subtle judgments they just match records together. I mean it's really hard to make something about a person's judgment here.

David McCallie – Cerner Corporation – Vice President of Medical Informatics
I mean it happens all the time when one additional question clarified—I mean I'm a junior and I run into that all the time. Are you a junior and re-query oh, there you are. I mean it happens all the time and it helps to have that extra question.

M
Very quick comment, I think one of the most interesting recommendations here—I mean we are not going to get the high quality data matching simply based on standards. It's going to require us to make sure that the data coming in is sufficient robust that we can make good matches so I think one of the most important recommendations here is number four around data quality and I would—again, I'm going to charge Judy and Liz—we need to think about when it comes to data quality that may be a certification criteria that says there's an expectation of a certain data quality, what would be the element that we would want to think about? Can we use some of those other levers because I think standards alone and algorithms alone aren't going to get us there it's going to have to be matches occur on high quality data and there's some assurance that if that match is going to actually occur the data is sufficiently robust.

Jonathan Perlin – Hospital Corporation of America – CMO & President
And Jim Walker?

Jim Walker – Geisinger Health Systems – Chief Health Information Officer
Marc, great work obviously; have you talked at all about context specificity of acceptable specificity of results? I mean if this is a patient with a clinician then acceptable specificity may be entirely different than if you are running thousands or hundreds of thousands of patient records through an algorithm to match numbers for a health information exchange, for instance. The second case you might just require 100%, whatever that means, whereas in a process where there's a human intermediary who can do the kinds of things David was talking about are a much lower specificity and the basis … in the ED maybe it'd be willing to say, "Look if the best you got is 88% show it to me and let me see if I can get something out of it."

Marc Overhage – Regenstrief – Director
We did have a lot of discussion about different levels of thresholds for different purposes and tried to focus on the use case for that reason. On a use case of a clinician taking care of a patient and I think you rapidly run into the points that some of the other committee members raised in the discussion here this afternoon about disclosing data about patients that are not this patient even in sort of incidental to care and returning data that attributes back to this person. I think that's the fundamental tension that you get into in terms of selecting that level and why the current recommendation or proposal as we drafted it here says you wouldn't return people that aren't highly confident to be a match.

Jim Walker – Geisinger Health Systems – Chief Health Information Officer
But you could imagine a presentation layer that would say, "The best we got is 84%. We're not going to tell you anything about it but if you could give us an address, if you could give us a former address, if you could give us whatever—"

Marc Overhage – Regenstrief – Director
Which is exactly why we were suggesting that we may want it to—and, again, the problem is nobody is doing this today but we may want to suggest in the implementation a way for the matching system to hand back to the requesting system information about what other patient fields would be helpful in disambiguating it, like you say, then a presentation layer could use. So, yes that we did contemplate, discuss and think about and I'm hearing support for building that in to accommodate that kind of interactive process.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Okay. Well, we look forward to your final report and now that we've given you so much input I imagine you will be able to wordsmith it and remove all controversy. Let us move on to we now have some interim reports that are quick and brief and so, Chris?

Christopher Chute – Mayo Clinic – VC Data Gov. & Health IT Standards
Thank you. This is on the summer camp for surveillance implementation power team. We have, fortunately, a number of people on the committee who know a great deal about this field, unlike me, who are assisted by very, very knowledgeable people including Rita Altamore from the Department of Health in Washington State and Pira Rozmonie a corresponding physician in Minnesota. We've had one meeting so far. One of the issues was what the heck our scope is. Initially the question was gee do we talk about public health reporting and all its potential requirements and activities, and I think there was enthusiasm for such philosophic considerations. A more tactical focus was more rapidly agreed upon, which is look let's deal with the immunization question with electronic laboratory reporting and with syndromic surveillance as its characterized, and fundamentally it comes down to the dreaded 2.3.1 version of HL7 versus 2.5.1 version of the same thing. The only finesse is that in the syndromic surveillance there's clearly some requirement to enhance the implementation guide as it's presently published.

There was a strategic question raised and that is should we/could we think about next generation more holistic public health reporting that would sort of address that larger potential scope that we decided not to address but it really gets around the question of whether CDA or CCD is a viable mechanism for public health reporting. The advantages from a provider perspective are fairly obvious in that most providers through meaningful use will eventually be able to manage these and a lot of EMRs are going that way. The obvious big concern is whether the recipients who incidentally are not covered by meaningful use requirements or regulation, that is to say the health departments at states, at municipalities, at other entities that would need to receive this, are they in a position to receive this and handle CDA messages in any meaningful capacity? That's an obvious question and whether, in fact, there could be a hybrid model where some laboratory orders would probably stay in a native HL7 V2 format but maybe the results could be—that's just a possibility, so our next steps are fairly clear.

To clarify explicitly, what are the pertinent distinctions in the scope of public health reporting between 2.3.1 and 2.5.1; to survey the public health recipients for their capacity to receive 2.5.1 presently, that's actually work that's underway so we're leveraging and taking advantage of a lot of survey work that is being done in any event independent of our summer camp activities; to refine the implementation guide

for syndromic surveillance, that is also work that is underway, CDC is taking the lead on that; and explore technical space for vaccination data; explore the capacity to receive CDAs as well in a public health context. So I'm pleased to say we're asking you to make no decisions. We've come to no conclusions and that's about as non-controversial as you can get.

Jonathan Perlin – Hospital Corporation of America – CMO & President
So let me give you a data point and that is that Massachusetts, which has a Department of Public Health as well as a Boston Public Health Commission, had an HL7 2.3 gateway and when we said, "No, it must be 2.5.1 because we are really going to be right out there with those ONC recommendations we don't want to go with these older standards. They changed their gateways so that the Massachusetts state and local gateways are now 2.5.1 compliant, and they are all geared to process HL7 2.X messages, and if we were to send a 3.X messages to a public health entity it would be un-parcelable. That is the current state of where we are and you may discover this is another …. Thomas, Happy Birthday, by the way.

Walter Suarez – Kaiser Permanente – Director, Health IT Strategy
Thank you. This is Walter, just one follow up, so I think it's important to see that the public health space and the realm of area with public health exchanges data with everybody else and providers exchange data with public health. This is larger than those three areas, and I think Chris pointed out to some of that, so I think it's going to be important to—beyond the constraint of our current priority, which is clear and is defined of looking at these three messages there's certainly a lot of other areas that I think it would be valuable to begin to think about. Particularly things like vital statistic reporting, something that a lot of work has been done in terms of standardizing the messages that go from providers to report person, that's another event, public health event. The other one, of course, the other big one I suppose is the reporting of public health cases, what we call public health case reporting or reporting of communicable diseases, notifiable conditions, those kind of things that are periodic, those are not syndromic surveillance reporting. That's a very important distinction. Those are reports of very specific types of events and in many cases our reports are much more complex in the content than what is encompassed, of course, in a syndromic surveillance type system, and there is another number of other areas for potential future work so I think it's important to think of those and begin to look beyond the scope of the work that we have in this priority area, some of the next steps.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Okay. Well, thank you and, Doug?

Doug Fridsma – ONC – Director, Office of Standards & Interoperability
Just a quick comment to thank the committee for the work that their doing. I think your comment is right on target. We want to try to push forward in the kinds of standards that we have and I think it's reasonable to think beyond that as well, and I think that's kind of where the committee is settled out with things. We certainly don't want to step back and I think one of the messages that we got from the HIC policy committee was you've got 2.3.1, you've got 2.5.1, let's continue to advance forward and let's try and choose one as we go forward.

The second thing and I think it's going to be a relatively less onerous task perhaps, is the implementation guide for syndromic surveillance. We had initially adopted one. We took it out of the regulations within meaningful use Stage I. I want to make sure we just get it right, and so this committee, I think, will be able to take a look at that. Those are the tasks that we really need to think about going into the fall, and then there's a whole host, as the committee has taken a look at, of additional kinds of exchanges that might be required. Those are important for us to consider but we need to sort of think about what do we need in the course of the next couple of weeks really, and then can we lay out a framework that provides a more uniform way and integrated way of making sure we deal with public health reporting. Again, thank the committee.

John Halamka – Harvard Medical School – Chief Information Officer
Okay, so Doug has just made a very important point. When the agency policy committee said we want one standard it didn't imply that we wanted one standard for all transactions public health. It meant not 2.3.1 and 2.5.1 variations on every domain specific standards. …

W
Just a quick question, does this mean that safety reporting or adverse events are out of this scope at the moment?

Doug Fridsma – ONC – Director, Office of Standards & Interoperability
At the current time. It is included in that broader scope of my first slide but our tactical focus is not capturing that specific use case.

M
So 2.3.1 versus 2.5.1, as I vaguely recall the history it's begot into a bit of a brew ha-ha about this, and it was not a case simply of people not wanting to change because its change it was because there was an issue of some functional significance involved in the change from 2.3.1 to 2.5.1, if I recall correctly. It may be that issue just doesn't matter for public health reporting but it would be nice to know what that issue was.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Right and so back in the day of … first 2.5.1 was considered a cutting edge and untested standard so there was the same controversy that we sometimes run into here but also that there were additional data elements that added layers of implementation complexity, which have long been implemented widely, and I don't think our—certainly with your committee asking the questions but as we went through all of Massachusetts and did 2.5.1 there was literally no pushback. It wasn't considered a barrier any longer. So, …

W
…2.5.1?

Jonathan Perlin – Hospital Corporation of America – CMO & President
Yes. Okay. Well, in the interest of moving forward, NwHIN Power team. Also a non-controversial … letter of recommendation with no votes.

Dixie Baker – Science Applications Intl. Corp. – CTO, Health & Life Sciences
Okay, thank you. All right these are the members of the Nationwide Health Information Network Power Team. We have a very, very good group here and I'm pleased with the progress that we've been making. I also wanted to thank Avinash Shanbhag from the ONC who's been really, really great in working with this team, so thank you.

Okay, first to review our charge, this is from last month. I presented it but just to remind you that this is what we've been asked to do is using the NwHIN exchange and direct project as the primary input to recommend a modular set of transport security and content components, which could be used as building blocks that could be selectively combined and integrated to enable the trusted exchange of documents in support of the meaningful use of electronic health record technology at a nationwide level. In defining these components we've put our emphasis on the simplicity of the components, the ease of implementing exchange using these components and the cross modularity among the components. Really the ability to treat them as Lego blocks and integrate them together and we will present our final recommendations September and our preliminary recommendations next month as John Halamka mentioned earlier.

Since our last meeting, Avinash Shanbhag has briefed our team on the ONC efforts to evaluate the specifications as well as the underlying standards that are embedded within those specifications that were used by the Nationwide Health Information Network Exchange and by the direct project to determine which are suitable for consideration as candidate NwHIN building blocks or components or modules whatever you choose to call them. Avinash briefed us on the evaluation process that they used and on the evaluation criteria they used and also presented the ONC standards and interoperability framework team's evaluation of the exchange specifications at this point.

The evaluation process that they used included soliciting inputs from the survey from the user communities such as the NwHIN exchange coordinating committee, getting inputs from NIST and also inputs from our power team. We sent back responses to them on work he's presented previously. The evaluation criteria they presented to us included the maturity of the specification, the implementability of the specification, the level of adoption by the healthcare market, and the priority within the healthcare industry, and then we provided them feedback.

In the next two slides, these are just to show you the kinds of inputs that ONC presented to us and we reviewed. As you can see, they did a subjective evaluation of the maturity of the specification and the breadth of industry adoption and the implementability and priority. This presents their mapping so based on the grid that they came up with here they presented it in a matrix that showed maturity versus adoption, and as you see in the upper right hand corner that indicates those specifications that are in that top dark green box up there are both high in adoption or broadly adopted within the healthcare industry and are considered very mature specifications. In sharp contrast those in the very light green are those that are very low in adoption or very low in maturity.

So the feedback that we provided to the S&I framework, we agreed that the process and the approach that they were using was good for the purpose for which it was intended. We suggested several modifications to the evaluation criteria. First, we suggested they add consideration of whether an alternate standard exists. It doesn't matter if the standard is immature and not broadly adopted if we have no other choice and we have a strong need for a standard in that area, for example. We suggested that they add the need, how seriously do we need a standard in a particular area. We suggested they added the technology maturity within the lifecycle. In other words, how mature the—if a technology is very, very mature but it's kind of becoming passé that should weight against it versus if it's really at the peak of its maturity and its adoptions and its use. Finally, we suggested they replace industry adoption with market adoption so that we consider not only how broadly the standard is adopted within the health industry but how broadly it's adopted beyond the health industry beyond healthcare.

ONC agreed to make these criteria adjustments and to update the grid and they'll be presenting that update at a meeting we have scheduled this next week. In addition, in our discussion we realized that there are other very broadly adopted mechanisms that should be considered that are neither in an exchange or the direct project but are widely adopted across the industry such as those used for e-prescribing, administrative transactions and lab reporting. So Ken Tarkoff of our power team is now leading a small group that is identifying these mechanisms other than exchange and direct that are being used widely and putting them through the same type of evaluation, and that work is fairly well along. He's received input from everybody, I believe, within this small group, and he will be presenting those results at our meeting next week.

Next step, we have a meeting next week. The agenda is to go over the results of Ken Tarkoff's smaller group and Avinash will present an update to the evaluation grid.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Well, as I've mentioned at the beginning that sometimes transport standards can be slightly controversial, and so I really like the idea of looking at adoption and broad market adoption and maturity because then when you bring things back to this group they'll be able to honestly say, "Is it one of the cutting edge, it's going to really help us? Is it in the right direction? Is it tried and true? Is it good enough or not?" Comments/questions?

Doug Fridsma – ONC – Director, Office of Standards & Interoperability
I just want to, again, I'm going to thank all the committees because everybody's working really hard out there and this team in particular I think working on fundamental and critical parts of trying to figure out the criteria for the different kinds of standards that are out there, help us understand where we need to put our investments. Is it in the SDO to try to get it from low maturity to high maturity or is it in the industry to get pilots and other evaluations done? It's tremendously valuable work that you're doing. I just want to put one caveat out there, is that the grid that you showed with all of the different sort of specifications; it is a draft, okay. I'm going to say that again, it's a draft. It has not been adopted by the standards committee. If

your favorite standard is in the wrong box please do not send me an email about that. It is, I think, an important part of opening up the dialog about all those pieces that are there and that, in fact, I think as we get those criteria well-articulated and bring it back to this committee this committee can have those particular conversations. I just want to make that perfectly clear.

Dixie Baker – Science Applications Intl. Corp. – CTO, Health & Life Sciences
Yes, both of those charts, both the grid and the matrix were both labeled all caps bold space EXAMPLE.

Doug Fridsma – ONC – Director, Office of Standards & Interoperability
Very good. Okay, well, hey, Jon, I think we're down to one last brief update.

Jonathan Perlin – Hospital Corporation of America – CMO & President
All right, it worked out—and I appreciate the framework because I think it is a useful construct for us to visualize what we've been contemplating. … frequent comment.

Walter Suarez – Kaiser Permanente – Director, Health IT Strategy
I just have a quick question before we move to the next report and it's about summer camp and this is probably to ONC. The policy committee made a series of recommendations on meaningful use, and then made a series of directions, if you will, or recommendations I suppose to bring back to the standards committee on areas related to meaningful use Stage II recommendations that need clarification standards, those kind of things, and I know we're working through some of those but I'm not sure if we have been able to map everything and ensure that all of the recommended elements in the policy committee for the standards committee are being covered. I'm particularly concerned, of course, as a member of the privacy and security workgroup some of the recommendations made by the target team on specific security areas that might require defined standards to be established and to be adopted in regulations. Are you comfortable with all the mapping of all those like 15 or so areas of recommendations the policy committee through the standards committee and the fact that we're covering them all now or—

Doug Fridsma – ONC – Director, Office of Standards & Interoperability
The question was am I comfortable? I haven't been comfortable all summer so we are in the process of transposing that because right now it's organized according to the policy objective and then kind of what the standard might be to support that. We're trying to transpose that to sort of say, "Here are the discussion that are coming out of this," and then following those into making sure that they are meeting the right policy objectives so if there are recommendations that are made that are somewhat related we can then cluster those around a standard that was adopted. That's true around the vocabulary and some of the terminologies.

So am I comfortable? This is the thing that keeps me up at night. Are we working on it? Absolutely and I think that's one of the things that we're doing both within the certification criteria because we need to make sure that we address that. Where the standards are, where we need to have functional characteristics but that's a conversation that we probably have to have with NIST, we need to have with this group, there's a whole bunch of people who need to be involved with that. It will have to involve a lot of those folks as well. We just have so many other activities that are ongoing and we're trying to, as we identify things, feed that in but what you're asking is sort of, is there something that we've missed? That means that we really have to evaluate the entire union, and I'm not sure that we're there yet but we are trying to take away all the good work that's going on in the working groups and the stuff that's going on in the S&I framework trying to make sure that we've had as broad of coverage as we can with the things that have been recommended, and then we'll have to go through it with Steve and the people with OPP to make sure that there aren't smaller pieces that we've missed or we need to pull out.

Jonathan Perlin – Hospital Corporation of America – CMO & President
So we have more work to do. I think that is the takeaway obviously that there are additional bodies of work in support of particular standards that Paul Tang updated us on last time, and we will chip away with those and really appreciate the work … behind Dixie's report because that helps to give us a model in which to contemplate. As Doug said it's not absolute. There might be other dimensions and then the current sort of attributions that are relatively notional but a frame in which to work toward. The other point

that Doug made earlier that we don't want to lose sight of is that we have a trajectory. We need to also not only telegraph but in the actual policy development give people a logical flow from across the stages of meaningful use and that is something that people can build towards and not a set of pivots at different stages but logical coherent and progressive. So we've got work.

With that in mind, it's important to take stock of the feedback on the first stage of the process, and I know there's a lot of intense analysis given that the format of response to the query that the invitation workgroup was—Liz Johnson and Judy Murphy—that is not entirely computable data but requires some additional processing … to bring us up-to-date on that.

Elizabeth Johnson – Tenet Healthcare – VP Applied Clinical Informatics

Oh, great. We're going to go ahead and get started. We have brought you the Workplan up-to-date and we are staying on plan as we've organized to do so. We're in the process of really staring the analysis on the results and those will be coming back to you with recommendations on the 17th of August and, again, I'm sure we'll have another discussion about the viability and how we should move forward and so on. It's interesting though I want to go to the next slide, as Judy and I have met with Doug and sort of talk about—just so you know that we are moving from summer camp to Christmas'—Doug is an analogy—Ebenezer Scrooge—so now we have Christmas of Present, the Christmas of Past and the Christmas of the Future so apparently there is much more work for us to do Jon because as we looked forward what we determined was immediately we need to look at the immediate clarifications around Stage I and what do we need to do to get the certification process, continue to hone it and make it appropriate, and then looking forward towards Stage II, which is the table that you see up here, working with ONC and with NIST how do we really tie together things we've been talking about throughout this conversation? How do we tie together the objective, the measures, the existing standard, is there a standard and if there's not how we're going to do that. You can see on across the grid, and then as that work begins to come forward to this committee, get approve, get input, then we really need to plan for the future. The certification needs to have a strategy and sort of a replicable process for the future so that we're not coming back stage after stage. We'll always be coming back to take lessons learned but to make it usable in the field. Judy, you may want to add or Doug?

Doug Fridsma – ONC – Director, Office of Standards & Interoperability

I think right now Avinash and Carol with consultation from NIST are going to be kind of working through that. I think the information that you have with regard to the surveys, the information that John had on his blog about the experience going through, certainly will fit into Christmas Past or certification past, if you will. When it comes to certification present it's going to be this grid that we're working on to make sure that those things for which there are not good standards we may need to think about a functional certification criteria or working with vocabulary and terminology making sure that we've got the right sort of send it conservatively that we see liberally strategy around that. And then, the future, I think, is in collaboration with NIST making sure that we use the lever of certification appropriately so that we can, and I think this is to—I can't remember who mention it on the phone—it was Jaime, the need to be able to start messaging with functional specification first that maybe then would lead to standards that can be more robustly adopted. There's a whole host of things that I think need to happen and we've been very, very good about thinking ahead and getting that roadmap. I think certification is one of those important pieces of our portfolio. That's kind of the next thing that will happen probably in the fall and into Christmas when we start thinking of our certification future.

Jonathan Perlin – Hospital Corporation of America – CMO & President

Any inputs on the—Dixie Baker?

Dixie Baker – Science Applications Intl. Corp. – CTO, Health & Life Sciences

Just to piggyback on Walter said a while ago that this grid you have on the last page the privacy and security workgroup, we don't have a lot of meaningful use objectives, right. In fact, the only objective they recommended was that they do another risk assessment. However, as Walter pointed out there are a number of policy recommendations that have been made by the Tiger Team that we would like to put in

this MU objective column because they definitely imply new functionality, new certification criteria, new standards that should be folded into Stage II. So just make sure we're included in that.

M
Important … and … we'll look forward to really having results to work through.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Okay, Nancy?

Nancy Orvis – U.S. Department of Defense (Health Affairs) – Chief
Just wanted to comment about these certification criteria, I just wanted to get a point of clarification on whether as vendors or other entities come forward to be certified could they also be submitting things that are not yet under meaningful use Stage I or II such as I've done or reference implementation of something forward out and the only reason I ask is because before we started this there was a broader perspective of whether people were implementing IHE specifications or the former CCH IT that there are some aspects of EHRs that want to move faster than we're here such as getting into ordering terminology or other things, and that has been an issue because when you're trying to buy three/five years in advance you would certainly like to get an idea of what are you doing with more cutting edge. Particularly on like reference implementation of standards that might be out there. I think it's going to be relevant when we come to medical devices because we don't have anything and we will not be recommending things now but there is certainly a clamor in organizations, what are we doing about medical devices, and there's going to need to be some reference and there's going to be stuff going on.

Elizabeth Johnson – Tenet Healthcare – VP Applied Clinical Informatics
That's the strategy going forward. It's a great question, Nancy. I think certainly for strategy going forward but something we'll take into consideration. It's a very interesting point.

M
It's a provocative question not only in terms of the functionality and the business logic but also in terms of the policy implications, so I think a terrific question to ask …

Nancy Orvis – U.S. Department of Defense (Health Affairs) – Chief
And I think there are some organizations who are trying to help lead the discussion by doing some of these earlier reference implementations or trying to see what works better and I think in some ways it would be great if NIST could help us register those or something.

Jonathan Perlin – Hospital Corporation of America – CMO & President
Okay. Well, I want to be particularly respectful of the public input but before we move to that section I want to thank the committee not only for a meeting that was slightly longer but for the passion you brought to that and that passion is demonstrative of the passion and intellect that has gone to all of the work in between, and so I really do appreciate the fulsome discussion that challenges assumptions and allows to help better support to ONC in terms of our work and ultimately their responsibilities.

Judy, let me turn to you to call on any public comments.

Judy Sparrow – Office of the National Coordinator – Executive Director
Right. We do welcome public comment at this time either in the room or on the telephone. If you're on the phone just press star one to speak and if you're on your computer you will need to dial 1-877-705-6006 and, we'll begin in the room with Tom Figaro.

Tom Figaro
I'm Tom Figaro with First Data Bank and as a knowledge base provider we are supportive of a move toward interoperable vocabulary for the transmission of health information. We are cross-referencing to … codes and XDX codes. I would ask the committee to consider for something like a medication concept or any other concept when we have a capability of pointing to one national vocabulary we do that understanding that there may be a reason especially in something like vaccines where we have to have

multiple codes but having a single code set, of course, cuts down on the complexity and cuts down on the chance for error and NIST cross-referencing.

My second comments more put on my pharmacist hat and my NCPDP hat. I have recently completed my second term as a board member at NCPDP and actively involved in the development of the script standard, and in developing the script standard we looked at a way to transmit information about a prescription, which is a very simple thing in a paper prescription when a human is involved but very complex when you try to do it electronically. We knew that to start with we would have the description of that medication concept that would be … but we always wanted to code to file it. We started with a representative NEC, which is problematic for a lot of reasons. NEC is product specific, manufacturer specific and size specific and it didn't work very well. With RxNorm codes we have an opportunity to represent a drug entity and its concept both generically and as a brand, and I would ask the committee to very strongly consider the thought that went into and the development of that standard for why we choose the SVD, the SCD the VPack and the Gpack within the standard to represent unambiguously the product and the intent of a physician in prescribing it. Thank you.

Judy Sparrow – Office of the National Coordinator – Executive Director
Thank you, Tom. Robin Raeford?

Robin Raeford
Hi, Robin Raeford from All Scripts and I might be the first Amtrak train rider that's listened to the … discussion all the way from New York today, and so a really rich discussion and I wanted to highlight something that Steve brought out in that when Jim showed a list of all the vocabularies and all that an orphan mandated answer that gets left out and Steve brought it up was ethnicity, which kind of throws—it's not in a list, it's not in the standards in the final rule but it's in there and it's a mandated answer. If somewhere we define standards or standards and mandated answers or how we want to do that because in this group and in the informatics world we all know where the standards are, we go on the rule. For the physicians who's got to implement this it throws them off guard. I was in a room of physicians in solo and small practices last night and he said no question, what threw him off was smoking status and demographics. He was surprised about this. Yes, I could collect demographics and where is that but yes do you do ethnicity and oh, by the way do you use the ONB standards and the other one is the smoking status and the CDC codes. Looking up an opportunity at the country level of engaged patients and consumers and approved population health that one standard all be it not by a standards development organization of the CDC recodes for smoking status, if that would be expanded into something you could put in a PHR for the six things that they cover in the national health interview survey, which if you look that up says that's been the way to keep your pulse on the health of the country since the 1960 but meaningful use will kind of explode that into what kind of data you have. If that's the intent where does that go and another key point about when John … brought up about whatever vocabulary they're mandatory to be native in the EHR or mapped in the EHR because right this minute there's a lot of mapping to those CDC recodes because people were capturing rich, robust, smoking cessation things say for medicine or for other tools to kind of meet into F27 and 28 when really you need all that information but you don't need those per say those six things so there's CDC recodes. So just in the spirit of corporate citizen in the federal health architecture and what's doing, if maybe the other things that CDC has to do and how they keep that on if that's maybe just a sidebar conversation to include in the final rule or at least there's going to be standards like .. and SNOMED safe standards and mandated lists and include ethnicity and smoking status as well. Thanks.

Judy Sparrow – Office of the National Coordinator – Executive Director
Thank you, Robin and on the phone we have Karen Witting, IBM.

Karen Witting
Hi, this is Karen Witting from IBM and I have a question about a file that was included in the meeting materials, it's a file that seems to be written by the health IT standards committee and it looks like it was delivered in June, so file name is transmittal letter. I glanced through this letter trying to understand what the purpose of it was and it seems to be—and my question is when did the standards committee agree to

send this letter because I have not heard it referenced either in June's meeting or in this meeting and, in fact, the contents of the letter seems somewhat contradictory to the discussion that happened in June.

Judy Sparrow – Office of the National Coordinator – Executive Director
Yes, that's just a process. One, the recommendation have been accepted by the … committee whether it's the policy committee or the standards committee in order to close that … loop we have to actually transmit those recommendations as final to the national coordinator, so we're just providing the committee a copy of the letter, a courtesy copy.

Karen Witting
So you're saying that letter is consistent with the discussion in June on the subject?

Judy Sparrow – Office of the National Coordinator – Executive Director
That's correct. Thank you and finally we have Melissa Swansfeld.

Melissa Swansfeld
Yes, I'm Melissa Swansfeld from Meditech and I just wanted to make a comment regarding the standards for quality reporting and they need to really look at version control for those standards. For example, for Stage I quality reporting for hospitals the current HIT … specification that hospitals need to use has a whole bunch of outdated RxNorm codes. I just want to make a point that we really need as we implement these standards look at version control and updating to keep data current but not updating it so often that it's going to be difficult for vendors as well as hospitals to keep up with those changes in nomenclature.

Judy Sparrow – Office of the National Coordinator – Executive Director
All right. Thank you very much and thank you to all members of the public and I'll turn it back to Dr. Perlin.

John Halamka – Harvard Medical School – Chief Information Officer
Let me just say that every time we get together I learn something and I think today we had a great discussion about how we can further refine our selection standards, better alignment with the SNI framework folks and ONC processes, better alignment with the policy committee, so as you said we'll never be done but I feel like the trajectory we're on is really more—we're working better together and getting more done and having rich open discussions getting the issues out on the table and converging on some great conclusions.

Jonathan Perlin – Hospital Corporation of America – CMO & President
I really appreciate that Jon because that's my observation as well and I particularly appreciate as our goal is to really support the policy committee and ONC in moving the agenda forward. When people respond not only with potential limitations for proposal but with alternatives that was incredibly constructive, so I want to thank everyone for that, which is why, again, the difference between hope and optimize, hope of feeling, optimism of feeling based on data and those are my data. Many thanks to all of you for participating. Thanks especially members of the public. Sorry that things did run longer but our discharge of responsibility to you is really in the robust consideration so, again, thanks to all the … and intellect and to ONC and to everyone for the hard work. We are adjourned.

Public Comment Received During the Meeting

1. I would like to comment on the recommended standard vocabularies. I would like to stress that maintenance and version management of standards is extremely important in the adoption of standards in the field.

2. The relevant NwHIN specification is called "Patient Discovery" not "patient query" as is stated in the slide deck. As the author on this specification, which is a modification of PDQ designed specifically for an NwHIN environment, I may be a useful subject matter expert as you consider the question of which to adopt.